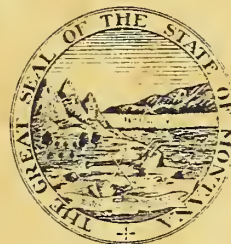




# Engineer's Project Report Butte Shafts Reclamation Phase III

*Prepared For:*

Abandoned Mine Reclamation Bureau  
Reclamation Division  
Montana Department of State Lands



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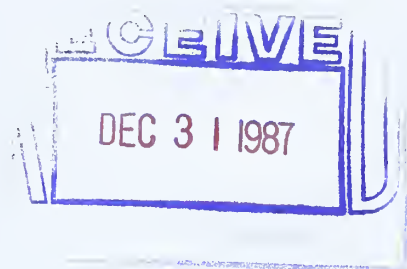
3 0864 1006 6089 6

NRIS # 43799



# Hydrometrics, Inc.

2727 Airport Road • Helena, Montana 59601 • (406) 443-4150



December 30, 1987

Ben Mundie, Geologist  
Department of State Lands  
1625 Eleventh Avenue  
Capitol Station  
Helena, MT 59620

Dear Ben,

Enclosed, please find two copies of the Engineer's Project Report for Butte AML - Phase III. One copy contains actual photos and the other copy contains copies of the photos.

If you have any questions, please don't hesitate to call me.

Sincerely,

Robert D. Braico, P. E.  
Civil/Environmental Engineer

RDB:jy

Enclosures

11/11/11



ENGINEER'S PROJECT REPORT

BUTTE SHAFTS RECLAMATION  
PHASE III

for

Abandoned Mine Reclamation Bureau  
Reclamation Division  
Montana Department of State Lands  
1625 Eleventh Avenue  
Helena, Montana 59620

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## BUTTE SHAFTS RECLAMATION PROJECT PHASE III

### PROJECT INTRODUCTION AND SUMMARY

The contract, Mine Shaft Reclamation Project, Phase III - Butte/Walkerville Urban Area, Montana Abandoned Mine Reclamation, consisted of reclamation of the inactive Colorado, West Gagnon and Buffalo Mine sites (Table 1). Reclamation at the Colorado and West Gagnon sites consisted of removal of large waste rock dumps, building debris, retaining walls and concrete foundations; installation of precast concrete shaft covers and the application of cover soil, lime, fertilizer, mulch and seed. Massive concrete structures and substantial steel building debris were encountered in the Colorado Mine waste rock dump and necessitated a change order. Because of grade conflicts with city streets, total removal of the West Gagnon Mine waste dump was not feasible. A change order was issued to cover remaining waste rock with topsoil after the Anaconda Mineral Company first contracted to cover the waste rock with a 300 T/acre veneer of crushed limestone. A change order was issued to Butte/Silver Bow to install asphalt curbing around the north, east and west sides of the West Gagnon Mine site and to backfill behind the curb with topsoil. Reclamation at the Buffalo Mine site consisted of shaft capping only.

The engineer's estimate for the project was \$336,125.00. The contract was bid at \$277,060.49. A total of five change orders were issued and the final construction cost was \$313,944.31



TABLE 1. SUMMARY OF BUTTE SHAFTS RECLAMATION - PHASE IV ACTIVITIES

| <u>Site Name</u> | <u>Location</u> | <u>Remove Structures</u> | <u>Remove Waste Dump</u> | <u>Grade Site</u> | <u>Cap Shaft</u> | <u>Apply Lime Veneer</u> | <u>Apply Topsoil</u> | <u>Construct Asphalt Curbing</u> | <u>Construct Channel for Runoff Water</u> | <u>Lime, Fertilize, Seed and Mulch</u> | <u>Area of Disturbance (acres)</u> |
|------------------|-----------------|--------------------------|--------------------------|-------------------|------------------|--------------------------|----------------------|----------------------------------|---|--|------------------------------------|
| Colorado         | Exhibit 1       | X                        | X                        | X                 | X                |                          | X                    |                                  |   | X                                      | 5.54                               |
| West Gagnon      | Exhibit 1       | X                        | X                        | X                 | X                | X*                       | X                    | X                                | X   | X                                      | 2.87                               |
| Buffalo Shaft    | Exhibit 1       |                          |                          |                   | X                |                          |                      |                                  |   |  | N/A                                |

\* By Anaconda Minerals Company



The contract was awarded to E. H. Oftedal & Sons, Inc. of Miles City, MT on March 11, 1986 (Agreement date). The Notice to Proceed was issued on March 18, 1986. All site work under this contract\* was concluded in June 1987 and the final payment request was approved on July 10, 1987. The original date for project completion was June 15, 1986.

Project period authorized was 145 calendar days which included 55 calendar days additional as a result of Change Order Nos. 2, 4 and 5. There were no additional days for Change Order Nos. 1 or 3. Project completion was delayed for several months because Butte-Silver Bow had not completed its work under Change Order No. 4. Therefore, the contractor was precluded from completing his work until mid-1987.

A lack of sufficient experience on the part of the contractor's superintendent was a major problem on this project. This lack of experience, coupled with the fact that the superintendent drove one of the trucks almost continuously, caused the project inspector to direct much of the work for the contractor.

The project was started in March 1986 and essentially completed in August 1986. However, because the installation of asphalt curbing was

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\* Additional site work completed in October 1987 under Phase V reclamation contract work.



not completed until Spring 1987, seeding was delayed until spring 1987. Topsoiling and associated revegetation was completed in October 1987 under a Phase V contract work directive change.

#### PROJECT DESCRIPTION

The inactive Colorado, West Gagnon and Buffalo Mines are located in the urban area of Butte and are bounded by or adjacent to public streets. Each of the shafts are deep (greater than 1000 feet) and were considered a significant public safety hazard because they were poorly bulkheaded when the shafts were abandoned. Bulkheading upon abandonment consisted of installing wooden timbers across the shafts, typically at a depth of approximately 40 feet below the existing ground surface, and then filling the shaft with waste rock from the bulkhead to the surface. Previous experience with other similarly bulkheaded Butte shafts shows this method of bulkheading lasts only about 20 to 40 years before the timbers rot out and the shaft begins to reopen at the surface. Bulkhead failure, as evidenced by surface subsidence, was already occurring at both the Colorado and West Gagnon Mine sites.

Other potential health and safety problems existed at the West Gagnon and Colorado sites. Failing retaining walls at both sites constituted an immediate public safety hazard because of their proximity to public streets and sidewalks. Waste rock material eroded from the dumps onto adjacent city streets constituted a potential public health hazard because vehicle traffic pulverized the displaced waste rock which was



subsequently entrained in the ambient air of the neighborhood by wind and the passage of vehicles.

Reclamation alternatives considered for the West Gagnon and Colorado sites were:

- 1) Shaft capping and waste dump removal, and
- 2) Shaft backfilling with the existing waste rock dump.

Because of the difficulty, danger and uncertainty in removing a bulkhead 40 feet below the surface and because a television inspection showed the West Gagnon shaft had already caved, Alternative 1 was selected. Also, work in the 1950's and 1960's by the Anaconda Minerals Company has shown it is almost impossible to get waste rock to the bottom of shafts which have a depth greater than about 1000 feet. The waste rock gradually bridges at one or more intermediate points, eventually blocking the flow of fill material. Backfilling of the Buffalo shaft was not considered because the waste rock dump had already been removed and the site reclaimed by the Anaconda Minerals Company.

On the west two-thirds of the West Gagnon site, almost all of the waste rock was removed. However, some waste rock was left as fill between the shaft and Jackson Street. Much of this waste rock was not acidic and, therefore, liming of the west two-thirds of the site was deleted. However, revegetation success was poor on a portion of this



area and a work directive was issued to West Valley Construction Company, Inc. in October 1987 to limestone veneer, topsoil and revegetate the affected area as part of the Phase V contract work. This work, plus topsoiling and revegetation behind the asphalt curbs was completed in October 1987.

Because of the risk of shaft failure, the upper portion of the West Gagnon shaft was not removed sufficiently to allow placement of the precast concrete channel sections on slope as shown on the contract plans. Instead, the concrete channel sections were installed horizontally. A television survey in 1985 showed the shaft was in poor condition (failing) and removal of the fan tube, which was a massive, monolithic reinforced concrete structure extending to below the existing bulkhead, was believed to pose an unnecessary risk of shaft failure given the equipment available and the limited contractor experience. Therefore, the project inspector recommended, and the engineer concurred, that it would be better to leave the fan tube and to install the precast concrete channel sections horizontally instead of on slope.

Following site smoothing with a motor grader, the area was mulched with straw at the rate of 3000 lbs/acre and Butte/Silver Bow installed (under change order) asphalt curbing and paving around much of the site to control erosion. Most of the site was fertilized in October 1986. However, seeding was delayed spring 1987 because the ground had frozen.



Work at the Buffalo Mine site consisted of capping the existing shaft with precast concrete channel sections. All other reclamation work consisting of waste dump grading, liming, topsoiling, fertilizing and seeding was completed by the Anaconda Minerals Company in late 1985 and early 1986. Site disturbance caused by installation of the precast concrete panels was repaired by the Anaconda Minerals Company.

Equipment and methods used to complete the project are summarized in Table 2.

#### PROJECT PROBLEMS

Several problems were experienced on this project. All were fundamentally attributal to the contractor, E. H. Oftedal, Inc., for permitting the project superintendent to function as a subcontractor (which is really what the superintendent was). The superintendent did not have sufficient experience, sufficiently experienced equipment operators or sufficient equipment to accomplish the work expeditiously without constant supervision from the project inspector. In an effort to complete the project in the proper manner, it was necessary to request the Anaconda Minerals Company to complete some of the extra work on the West Gagnon and to issue a change order to Butte-Silver Bow to install asphalt curbing peripheral to the West Gagnon site and to backfill behind the curbing with topsoil. Because Butte-Silver Bow did not complete the asphalt curbing or the topsoiling in September 1986 in accordance with the change order, the contractor was delayed



TABLE 2. EQUIPMENT AND METHODS

| <u>Equipment</u>   | <u>Use</u>  |
|--|---|
| ° D-8G/crawler tractor with dozer blade and ripper                   | Push waste rock into pile for loading and to break structural concrete.         |
| ° Allis Chalmer rubber-tired, 645 front-end loader (4½ cu/yd bucket) | Excavate and load waste rock.   |
| ° Komatsu rubber-tired, 175B front-end loader                        | Excavate and load waste rock.   |
| ° Small John Deere crawler tractor (approx. D-4 size)                | Unsatisfactory for pushing waste rock; too small.                               |
| ° Caterpillar 12E motor grader (14 ft. blade)                        | Blade site smooth in preparation for liming, mulching, fertilizing and seeding. |
| ° Michigan 275B rubber-tired, front-end loader                       | Excavate and load waste rock. Machine too large for project.                    |
| ° 12 cu/yd tandem-axle dump trucks                                   | Haul waste rock to disposal site.   |
| ° 50 ton hydraulic crane   | Place precast concrete beams over shaft.  |



in completing revegetation until spring 1987. Additional details are provided in the project inspector's daily log.

The final section of asphalt curbing was installed in spring 1987. Topsoil still had not been placed behind the curbs. However, in order to avoid further contractor delays, final revegetation work on the site was allowed in early 1987. Topsoiling and revegetation behind the curbing plus repair of the failed revegetation on the interior of the West Gagnon site was added as extra work to the Phase V contract. The contractor for Phase V work was West Valley Construction Company, Inc. of Anaconda, MT. West Valley has completed extensive reclamation work in Butte and Anaconda for the Anaconda Minerals Company.

#### COST SUMMARY

The contract award amount was \$277,069.49. The engineer's estimate was \$336,125.00. Five change orders (incorporated several work directives) were issued for extra work and changed quantities for \$61,865.61. Total project construction cost was \$313,944.31. Detailed contract costs are shown in the payment requests (Appendix I). Reclamation costs for each site are summarized in Table 3. The engineer's estimate was based on bid prices for Phase II contract work.

Engineering consultant costs were 14.8 percent of construction costs and included preliminary engineering, development of detailed plans and specifications, construction inspection, project administration



TABLE 3. CONSTRUCTION COSTS

| <u>Item No.</u>                 | <u>Description</u>   | <u>Estimated<br/>Plan<br/>Quantity</u> | <u>Actual<br/>Quantity</u> | <u>Unit<br/>Bid Price</u> | <u>Contract Price</u> | <u>Final Cost</u> |
|---------------------------------|--|--|----------------------------|---------------------------|-----------------------|-------------------|
| <u>Colorado Mine Site</u>       |  |  |                            |                           |                       |                   |
| 1.                              | Remove waste dump  | 50,000 C.Y.                            | 57,591                     | \$ 2.06                   | \$ 103,000.00         | \$ 118,637.46     |
| 2.                              | Remove retaining walls   | Lump Sum                               | -                          | -                         | 1,493.76              | 1,493.76          |
| 3.                              | Remove concrete structures   | Lump Sum                               | -                          | -                         | 501.22                | 501.22            |
| 4.                              | Construct gravel pads  | Lump Sum                               | -                          | -                         | 433.75                | 433.75            |
| 5.                              | Install precast concrete channel sections  | 13 each                                | 13                         | 1,250.00                  | 16,250.00             | 16,250.00         |
| 6.                              | Lime application   | 54,000 lbs.                            | 113,900                    | 0.26                      | 14,040.00             | 29,614.00         |
| 7.                              | Fertilizer   | 1,663 lbs.                             | 1,150                      | 2.40                      | 3,991.20              | 2,760.00          |
| 8.                              | Seed   | 119 lbs.                               | 71.8                       | 7.19                      | 855.61                | 516.24            |
| 9.                              | Mulch  | 10,800 lbs.                            | 7,708                      | 0.205                     | 2,214.00              | 1,580.14          |
| Engineering Contract Additional | Cost of MRI dozing waste rock into Berkeley Pit  |  | Time and Materials         |                           |                       | 8,415.00          |
| Change Order No. 2              | Remove and haul excess amounts of concrete and building debris                           |  | Time and Materials         |                           |                       | 24,333.65         |
| Change Order No. 3              | Alternate beam substitution  |  |                            |                           | (4,030.00)            |                   |
| Change Order No. 5              | Additional 15T/acre lime application to 1.84 acres                                       | Included in Item 6, above              |                            |                           |                       | -                 |
|                                 | Remove metals contaminated soil as directed. Haul and place cover soil in excavated area |  | Time and Materials         |                           |                       | 2,500.00          |
|                                 | Delete removal of concrete building foundation and floor slab                            |  |                            |                           |                       | (250.00)          |
| Extra work not on Change Orders |  |  |                            |                           |                       | 2,644.45          |
|                                 |  |  | SUBTOTAL FOR SITE          |                           | \$ 142,779.54         | \$ 205,399.67     |



TABLE 3, CONTINUED

| <u>Item No.</u>              | <u>Description</u>   | <u>Estimated<br/>Plan<br/>Quantity</u> | <u>Actual<br/>Quantity</u> | <u>Unit<br/>Bid Price</u> | <u>Contract Price</u> | <u>Final Cost</u> |
|------------------------------|--|--|----------------------------|---------------------------|-----------------------|-------------------|
| <u>West Gagnon Mine Site</u> |  |  |                            |                           |                       |                   |
| 1.                           | Remove waste dump  | 31,000 C.Y.                            | 19,406                     | \$ 2.90                   | \$ 89,900.00          | \$ 56,277.40      |
| 2.                           | Remove headframe footings  | Lump Sum                               | -                          | -                         | 500.00                | 500.00            |
| 3.                           | Remove retaining walls   | Lump Sum                               | -                          | -                         | 995.00                | 995.00            |
| 4.                           | Regrade mine site  | Lump Sum                               | -                          | -                         | 540.00                | 540.00            |
| 5.                           | Construct gravel pads  | Lump Sum                               | -                          | -                         | 433.75                | 433.75            |
| 6.                           | Install precast concrete channel sections  | 15 Each                                | -                          | 1,250.00                  | 18,750.00             | 18,750.00         |
| 7.                           | Construct riprapped channel.   | 160 L.F.                               | 0                          | 2.875                     | 460.00                | -0-               |
| 8.                           | Lime application   | 25,000 lbs                             | 0                          | 0.26                      | 6,500.00              | -0-               |
| 9.                           | Fertilizer   | 770 lbs                                | 900                        | 2.40                      | 1,848.00              | 2,160.00          |
| 10.                          | Seed   | 55 lbs                                 | 56.6                       | 7.19                      | 395.45                | 406.95            |
| 11.                          | Mulch  | 5,000 lbs                              | 7,128                      | 0.205                     | 1,025.00              | 1,461.24          |
| Change Order No. 3           | Alternate Beam Substitution  |  |                            |                           |                       | (4,650.00)        |
| Change Order No. 4           | Asphalt curbs and topsoil - Butte/Silver Bow   |  |                            |                           |                       | 3,592.50          |
| Change Order No. 5           | Additional 15 T/Acre lime application to 1.84 acre                                       |  |                            |                           |                       |                   |
|                              | Remove metals-contaminated soil as directed. Haul and place cover soil in excavated area |  |                            |                           |                       |                   |
|                              | Delete removal of concrete building foundation and floor slab                            |  |                            |                           |                       | 18,244.05         |
| SUBTOTAL FOR SITE            |  |  |                            |                           | \$ 121,347.20         | \$ 98,710.89      |



TABLE 3 , CONTINUED

| <u>Item No.</u>          | <u>Description</u>                           | <u>Estimated<br/>Plan<br/>Quantity</u> | <u>Actual<br/>Quantity</u> | <u>Unit<br/>Bid Price</u> | <u>Contract Price</u> | <u>Final Cost</u> |
|--------------------------|--|--|----------------------------|---------------------------|-----------------------|-------------------|
| <u>Buffalo Mine Site</u> |  |  |                            |                           |                       |                   |
| 1.                       | Construct gravel pads                        | 1                                      | -                          | Lump Sum                  | \$ 433.75             | \$ 433.75         |
| 2.                       | Install precast concrete<br>channel sections | 10                                     | 10                         | \$1250.00                 | 12,500.00             | 12,500.00         |
| 3.                       | Alternate beam substitution                  |  |                            |                           |                       | (3,100.00)        |
|                          |  |  | SUBTOTAL FOR SITE          |                           | \$ 12,933.75          | \$ 9,833.75       |
|                          |  |  | TOTAL FOR PROJECT          |                           | \$ 277,060.49         | \$ 313,944.31     |



and preparation of the final report (Table 4). Engineering costs were significantly increased by the contractor's inability to conduct the work in an efficient manner. As a result, increased inspection and administrative costs were incurred.



TABLE 4. ENGINEERING AND ADMINISTRATION COSTS  
FOR BUTTE SHAFTS RECLAMATION

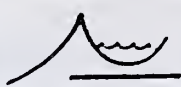
- PHASE III CONTRACT -

| <u>Description</u>  | <u>Cost</u>   | <u>Percent of<br/>Construction<br/>Cost</u> |
|---|---------------|---|
| Preliminary Engineering<br>(includes shaft drilling<br>and television inspection) | \$ 5,830.98   | 1.8   |
| Plans and Specifications  | 12,817.15     | 4.1   |
| Project Administration  | 9,500.97      | 3.0   |
| Construction Inspection   | 19,123.66     | 6.1   |
|   | <hr/>         |   |
| Project Engineering Cost  | 47,272.76     | 15.0  |
|   | <hr/>         |   |
| Construction Cost   | 313,944.31    |   |
|   | <hr/>         |   |
| TOTAL PROJECT COSTS   | \$ 361,217.07 |   |



APPENDIX 1  
PAYMENT REQUESTS





April 11, 1986

Ben Mundie  
Department of State Lands  
Capitol Station  
Helena, MT 59620

Re: Butte AML Phase III

Dear Ben,

Enclosed for your consideration are the following:

1. First partial payment request from E. H. Oftedal & Sons, Inc. The payment request is for the removal of 8963.0 cubic yards of waste dump material from the Colorado mine site. The volume of removed material is based on surveys and computation by Dave Piper. However, the unit price of 2.90/cy is in error and appears to have been inadvertently taken from the unit price for waste dump removal at the West Gagnon site. The corrected amount due, 8963.0 cy x \$2.06 is \$18,463.78 less retainage.
2. Invoices from Montana Resources, Inc. for dozer work required to push end-dumped waste rock from the Colorado mine site into the Berkeley Pit. It is my understanding that this work by Montana Resources, Inc. is to be paid under Hydrometrics' existing contract.
3. A contour map and computations from Piper and Assoc. regarding volume of waste rock removed from the Colorado mine site.
4. Copy of a letter to E. H. Oftedal & Sons, Inc. requesting that future payment requests be made using forms provided at the Preconstruction Conference.

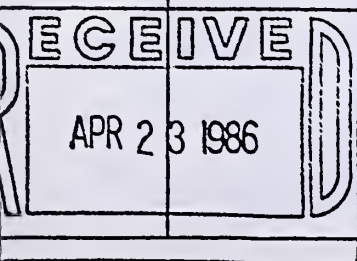
Please let me know if you have any questions or need additional information.

Sincerely,

Robert D. Braico  
Civil Environmental Engineer

RDB/lkh  
Enclosure



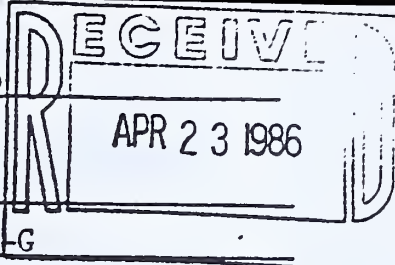




FROM April 1, 1986

TO

April 15, 1986



PROJECT NAME Mine Reclamation - Colorado Mine

LOCATION Butte, MT

PROJ. NO. IFB7174-G

NAME OF CONTRACTOR E. H. Oftedal &amp; Sons, Inc ADDRESS Box 400 Miles City, MT 59301

| CHANGE ORDERS                            |                             |           | CONTRACT STATUS |                  |                    |                   |
|--|-----------------------------|-----------|-----------------|------------------|--------------------|-------------------|
| No.                                      | Description                 | Amount    | Total Amount    | Completed Amount | Uncompleted Amount | Per Cent Complete |
| 1  | Clean Waste Concrete Tunnel | \$ 390.00 | \$277060.49     | \$ 51102.42      | \$225,958.07       | 18.5%             |
|  |                             |           |                 |                  |                    |                   |
|  |                             |           |                 |                  |                    |                   |
|  |                             |           |                 |                  |                    |                   |
| Total Change Orders \$390.00             |                             |           |                 |                  |                    |                   |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |                             |           | \$277450.49     | \$ 51494.42      | \$226,348.07       | 18.5%             |

TOTAL RETAINAGE \$

SECURITIES ON DEPOSIT \$

ADJUSTED RETAINAGE \$

\*For use only when securities are on deposit in lieu of 10% retainage.

COMPLETED TO DATE \$ 51,492.42

PLUS MATERIALS ON SITE \$

TOTAL COMPLETED TO DATE \$ 51,492.42

\*10% OR ADJUSTED RETAINAGE \$ 5,149.24

TOTAL AMOUNT EARNED TO DATE \$ 46,343.18

LESS PREVIOUS PAYMENTS \$ -0-

AMOUNT DUE THIS PAYMENT \$ 46,343.18

LESS 1% TAX \$ 453.43

TOTAL DUE CONTRACT \$ 45,879.75

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

E. H. Oftedal &amp; Sons, Inc.

(Contractor)

By Ray H. James

Date April 21, 1986

RECOMMENDED BY:

Hydrometrics  
(Engineer)By *Paul D. Bain*

Date 4/24/86

Approved By:

Owner

*Richard L. Hunt*

4/25/86



# E.H. OFTEDAL & SONS, INC.

An Equal Opportunity Employer

## CONTRACTORS

P.O. Box 400

Miles City, Montana 59301

(406) 232-5911

## STATEMENT

Date: June 5 19 86

Department of State Lands  
Capitol Station  
1625 Eleventh Avenue  
Helena, MT 59620

TERMS: 1% 10 day net 30. All charges  
30 DAYS PAST DUE SUBJECT TO 1 1/2%  
PER MONTH SERVICE CHARGE. AN  
ANNUAL RATE OF 18%.

For work completed April 16, 1986 - May 19, 1986 Project No. IFB7174-G

| Date   | Description   | Amount       |
|--------|---|--------------|
| May 19 | Colorado Mine Site Item No. 1                       |              |
|        | Remove Mine Waste Dump <u>32,784</u> CY @ \$2.06/CY | 67,535 04    |
|        | <u>EXTRA WORK DAILY SUMMARY</u>                     |              |
|        | #2  | 1,170 00     |
|        | #3  | 597 80       |
|        | #4  | 195 00       |
|        | #5  | 80 00        |
|        | #6  | 300 00       |
|        | #7  | 100 00       |
|        | #8  | 487 50       |
|        | #9  | 195 00       |
|        | #10   | 144 00       |
|        | #11   | 97 50        |
|        | #12   | 305 00       |
|        | #13   | 360 00       |
|        | #14   | 4,100 00     |
|        | #15   | 1,308 00     |
|        | #16   | 885 00       |
|        | #17   | 2,249 10     |
|        | #18   | 2,000 00     |
|        | #19   | 1,200 00     |
|        | #20   | 5,860 00     |
|        | #21   | 990 00       |
|        | #22   | 1,441 25     |
|        | Total Due   | \$ 91,601 19 |
|        | Less 10% Retainage                                  | 9,160 12     |
|        |   | \$ 82,441 07 |
|        | Less 1% Tax   | 824 41       |
|        | NET DUE   | 81,616 56    |
|        | Total   |              |



PAYMENT REQUEST NO. 2

FROM

APRIL 16, 1986

TO

MAY 15, 1986

PROJECT NAME

Mine Reclamation - Colorado Mine

LOCATION

Butte, MT

PROJ. NO.

TEB0174-C

NAME OF CONTRACTOR

E. H. Ofstedal &amp; Sons, Inc.

ADDRESS

Box 400 Miles City, MT 59301

## CHANGE ORDERS

## CONTRACT STATUS

| No.                                      | Description                          | Amount    | Total Amount | Completed Amount | Uncompleted Amount | Per Cent Complete |
|--|--------------------------------------|-----------|--------------|------------------|--------------------|-------------------|
| 2  | Remove excessive amounts of concrete |           | 277060.49    | 170129.88        | 174060.49          | 37.2%             |
|  | steel and waste rock                 | 39,971.11 |              |                  |                    |                   |
|  |                                      |           |              |                  |                    |                   |
|  |                                      |           |              |                  |                    |                   |
| Total Change Orders                      |                                      |           | 39971.11     | 39971.11         | -0-                |                   |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |                                      |           | 317031.60    | 142971.11        | 174060.49          | 45.1%             |

TOTAL RETAINAGE

\$

SECURITIES ON DEPOSIT

\$

ADJUSTED RETAINAGE

\$

\*For use only when securities are on deposit in lieu of 10% retainage.

COMPLETED TO DATE

\$ 131,191.11

PLUS MATERIALS ON SITE

\$ -0-

TOTAL COMPLETED TO DATE

\$ 142,971.11

\*10% OR ADJUSTED RETAINAGE

\$ 14,297.11

TOTAL AMOUNT EARNED TO DATE

\$ 128,674.00

LESS PREVIOUS PAYMENTS

\$ 46,343.18

AMOUNT DUE THIS PAYMENT

\$ 82,441.07

LESS 1% TAX

\$ 824.41

TOTAL DUE CONTRACT

\$ 81,616.66

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

E. H. Ofstedal &amp; Sons, Inc.

(Contractor)

By

Date

June 5, 1986

RECOMMENDED BY:

(Engineer)

By

Date

Approved By:

Owner



# E.H. OFTEDAL & SONS, INC.

## STATEMENT

An Equal Opportunity Employer

### CONTRACTORS

P.O. Box 400

Miles City, Montana 59301

(406) 232-5911

Date: June 30 19 86

Department of State Lands

TERMS: 1% 10 day net 30. All charges  
30 DAYS PAST DUE SUBJECT TO 1 1/2%  
PER MONTH SERVICE CHARGE. AN  
ANNUAL RATE OF 18%.

For work completed May 20, 1986 - June 30, 1986 Project No. I337174-G

| Date | Description  | Amount        |
|------|--|---------------|
|      | <u>continued from page 1</u>                             |               |
|      | <u>EXTRA WORK SUMMARY</u>                                |               |
|      | #24  | 1,200 00      |
|      | #25  | 989 45        |
|      | Total Due  | \$ 110,995 58 |
|      | Less 10% Retainage                                       | 11,099 58     |
|      |  | \$ 99,896 00  |
|      | Less 1% Tax  | 998 06        |
|      | NET DUE  | \$ 98,897 06  |
|      |  | 110,995 58    |
|      |  | (11,780 00)   |
|      |  | 99,215 58     |
|      | <i>R. D. B.</i><br><i>Hydrometries</i><br><i>7/17/86</i> |               |
|      | <i>Less Change Order No. 3</i>                           |               |
|      | <i>Total Due</i>   |               |
|      | Total  |               |



# E.H. OFTEDAL & SONS, INC.

## STATEMENT

An Equal Opportunity Employer

### CONTRACTORS

P.O. Box 400

Miles City, Montana 59301

(406) 232-5911

Date: June 30 19 86

Department of State Lands  
Capitol Station  
1625 Eleventh Avenue  
Helena, MT 59620

TERMS: 1% 10 day net 30. All charges  
30 DAYS PAST DUE SUBJECT TO 1½%  
PER MONTH SERVICE CHARGE. AN  
ANNUAL RATE OF 18%.

For work completed May 20, 1986 - June 30, 1986 Project No. IFR7174-G

| Date                         | Description   | Amount    |
|------------------------------|---|-----------|
| <u>COLORADO MINE SITE</u>    |   |           |
| <u>Item No.</u>              | <u>Description</u>                                      |           |
| 2                            | Remove existing retaining walls                         | 1,493 76  |
| 3                            | Remove headframe footings, misc.<br>concrete structures | 251 22    |
| 4                            | Construct gravel pads                                   | 433 75    |
| 5                            | Install precast concrete channel sections               | 16,250 00 |
| <u>WEST GARDON MINE SITE</u> |   |           |
| <u>Item No.</u>              | <u>Description</u>                                      |           |
| 2                            | Remove headframe footings                               | 500 00    |
| 3                            | Remove existing retaining walls                         | 995 00    |
| 4                            | Regrade mine site                                       | 540 00    |
| 5                            | Construct gravel pads                                   | 433 75    |
| 6                            | Install precast concrete channel sections               | 13,750 00 |
| <u>BUFFALO AIR SHAFT</u>     |   |           |
| <u>Item No.</u>              | <u>Description</u>                                      |           |
| 1                            | Construct gravel pads                                   | 433 75    |
| 2                            | Install precast concrete channel sections               | 12,500 00 |
| <u>WEST GARDON MINE SITE</u> |   |           |
| <u>Item No.</u>              | <u>Description</u>                                      |           |
| 1                            | Remove mine waste dump 19,231 CY @ \$2.90/CY            | 55,769 90 |
| <u>EXTRA WORK SUMMARY</u>    |   |           |
| #23                          |   | 455 55    |
| Total                        |   |           |

continued



FROM

May 20, 1986

TO

June 30, 1986

PROJECT NAME

Mine Shaft Capping Project - III

LOCATION

Silver Bow Co. Butte, MT

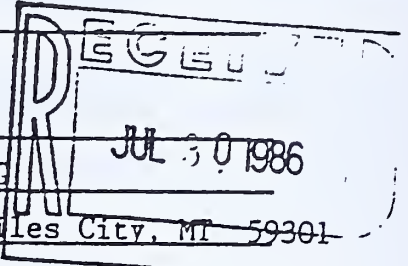
PROJ. NO. IFB7174-G

NAME OF CONTRACTOR

E. H. Oftedal & Sons, Inc

ADDRESS

Box 400 Miles City, MT 59301



| CHANGE ORDERS                            |   |           | CONTRACT STATUS |                                     |                                   |                       |
|--|---|-----------|-----------------|-------------------------------------|-----------------------------------|-----------------------|
| No.                                      | Description   | Amount    | Total Amount    | Completed Amount                    | Uncompleted Amount                | Per Cent Complete     |
| 2  | Remove excessive amounts of concrete steel & waste rock | 39,971.11 | 277,060.49      | <del>202,215.58</del><br>213,995.58 | <del>74,844.91</del><br>63,064.91 | <del>73%</del><br>77% |
|  |   |           |                 |                                     |                                   |                       |
|  |   |           |                 |                                     |                                   |                       |
|  |   |           |                 |                                     |                                   |                       |
| Total Change Orders                      |   |           | 39,971.11       | 39,971.11                           | -0-                               | 100%                  |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |   |           | 317,031.60      | <del>242,186.69</del><br>253,966.69 | <del>74,844.91</del><br>63,064.91 | <del>76%</del><br>80% |

TOTAL RETAINAGE

\$

SECURITIES ON DEPOSIT

\$

ADJUSTED RETAINAGE

\$

\*For use only when securities are on deposit in lieu of 10% retainage.

COMPLETED TO DATE

\$

~~253,966.69~~ 242,186.6

PLUS MATERIALS ON SITE

\$

-0-

TOTAL COMPLETED TO DATE

\$

~~253,966.69~~ 242,186.6

\*10% OR ADJUSTED RETAINAGE

\$

~~25,396.67~~ 24,218.67

TOTAL AMOUNT EARNED TO DATE

\$

~~228,570.02~~ 217,968.0

LESS PREVIOUS PAYMENTS

\$

128,674.00

AMOUNT DUE THIS PAYMENT

\$

~~99,896.02~~ 89,294.02

LESS 1% TAX

\$

~~998.96~~ 892.94

TOTAL DUE CONTRACT

\$

~~98,897.06~~

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

E. H. Oftedal & Sons, Inc.  
(Contractor)

By W. T. Oftedal

Date July 16, 1986

RECOMMENDED BY:

Hydrometrics  
(Engineer)

By W. T. D. Bain

Date July 23, 1986

Approved By:

88,401.08

R. B. Bain  
Hydrometrics  
7/17/86

Owner

Richard J. Bain

7/24/86



# E.H. OFTEDAL & SONS, INC.

## STATEMENT

An Equal Opportunity Employer  
**CONTRACTORS**  
 P.O. Box 400  
 Miles City, Montana 59301  
 (406) 232-5911

Date: August 6 19 86

Department of State Lands  
 Capitol Station  
 1625 Eleventh Avenue  
 Helena, MT 59620

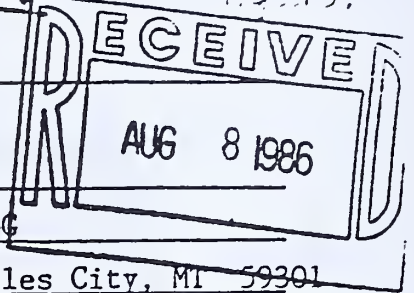
TERMS: 1% 10 day net 30. All charges  
 30 DAYS PAST DUE SUBJECT TO 1 1/2%  
 PER MONTH SERVICE CHARGE. AN  
 ANNUAL RATE OF 18%.

For T & M work done on Project No. IFB7174-G

| Date | Description   | Amount    |    |
|------|---|-----------|----|
|      | Time and Material Statement for West Gagnon & Colorado Dump Removal |           |    |
|      | Labor and Equipment   | 20,366    | 50 |
|      | Materials   | 469       | 50 |
|      | Total Due   | \$ 20,836 | 00 |
|      | Less 10% Retainage  | 2,083     | 60 |
|      |   | 18,752    | 40 |
|      | Less 1%   | 187       | 52 |
|      | NET DUE   | \$ 18,564 | 88 |
|      | LABOR & EQUIPMENT (less \$17.31 for rake)                           | 20,349    | 37 |
|      | MATERIALS (less 1.46 yd concrete to patch sidewalks)                | 394       | 68 |
|      | TOTAL DUE   | 20,744    | 05 |
|      | LESS 10% RETAINAGE  | 2,074     | 41 |
|      |   | 18,669    | 64 |
|      | LESS 1% TAX   | 186       | 70 |
|      |   | 18,482    | 94 |
|      | <i>R. B. 8/13/86</i>  |           |    |
|      | Total   |           |    |



FROM August 1, 1986 TO August 8, 1986



PROJECT NAME Mine Shaft Capping Project - III

LOCATION Silver Bow County - Butte, MT

PROJ. NO. IFB7174-G

NAME OF CONTRACTOR E. H. Oftedal & Sons, Inc.

ADDRESS Box 400 Miles City, MT 59301

| CHANGE ORDERS                            |   |             | CONTRACT STATUS                       |                                       |                                     |                            |
|--|---|-------------|---------------------------------------|---------------------------------------|-------------------------------------|----------------------------|
| No.                                      | Description   | Amount      | Total Amount                          | Completed Amount                      | Uncompleted Amount                  | Per Cent Complete          |
| 2  | Remove excessive amounts of concrete steel & waste rock | \$39,971.11 | \$277,060.49                          | 213,995.58<br><del>\$234,831.58</del> | 63,064.91<br><del>\$42,228.91</del> | 77.2%<br><del>84.7%</del>  |
| * 3                                      | Alternate Beams   | (11,780.00) |                                       |                                       |                                     |                            |
| * * 4                                    | Haul & Place Cover Soil                                 | 29,500      |                                       |                                       |                                     |                            |
| Total Change Orders                      |   |             | 57,691.11<br><del>28,191.11</del>     | 46,935.16<br><del>28,191.11</del>     | 8,755.95<br><del>0</del>            | 84.8%<br><del>100%</del>   |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |   |             | 334,751.60<br><del>\$305,251.60</del> | 262,930.74<br><del>\$263,022.69</del> | 71,820.86<br><del>\$42,228.91</del> | 78.6%<br><del>86.17%</del> |

TOTAL RETAINAGE \$  
SECURITIES ON DEPOSIT \$  
ADJUSTED RETAINAGE \$

COMPLETED TO DATE \$ 263,022.69 262.9 30.7  
PLUS MATERIALS ON SITE \$ -0-  
TOTAL COMPLETED TO DATE \$ 263,022.69 262.9 30.7  
\*10% OR ADJUSTED RETAINAGE \$ 26,302.27 26.2 93.0  
TOTAL AMOUNT EARNED TO DATE \$ 236,720.42 236.6 37.4  
LESS PREVIOUS PAYMENTS \$ 217,968.02  
AMOUNT DUE THIS PAYMENT \$ 18,752.40 18.6 6.5  
LESS 1% TAX \$ 187.52 186. 70  
TOTAL DUE CONTRACT \$ 18,564.88 18.48 2.9

\*For use only when securities are on deposit in lieu of 10% retainage.

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

Approved By:

E. H. Oftedal & Sons, Inc.  
(Contractor)

Owner

By [Signature]

Date August 6, 1986

RECOMMENDED BY:

Hydrometrics, Inc.  
(Engineer)

By [Signature]

Date August 13, 1986

8/19/86



# E.H. OFTEDAL & SONS, INC.

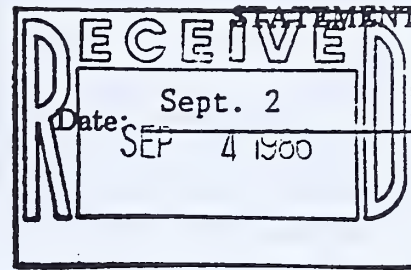
An Equal Opportunity Employer

## CONTRACTORS

P.O. Box 400

Miles City, Montana 59301

(406) 232-5911



Department of State Lands  
Capitol Station  
1625 Eleventh Avenue  
Helena, MT 59620

TERMS: 1% 10 day net 30. All charges  
30 DAYS PAST DUE SUBJECT TO 1½%  
PER MONTH SERVICE CHARGE. AN  
ANNUAL RATE OF 18%.

For work completed on Project No. IFB7174-G

| Date | Description                      | Amount         |
|------|----------------------------------|----------------|
|      | <u>Colorado Mine Site</u>        |                |
|      | Lime Application 113,900 @ \$.26 | \$ 29,614 00   |
|      | Mulch 7,708 @ \$.205             | 1,580 14       |
|      | <u>West Gagnon Mine Site</u>     |                |
|      | Mulch 7,128 @ \$.205             | 1,461 24       |
|      | TOTAL DUE                        | \$ 32,655 38 ✓ |
|      | Less 5% Retainage                | 1,632 77       |
|      |                                  | \$ 31,022 61   |
|      | Retainage Reduction              | 13,146 53      |
|      |                                  | \$ 44,169 14   |
|      | Less 1% Tax                      | 441 69         |
|      | NET DUE                          | \$ 43,727 45   |
|      | Total                            |                |



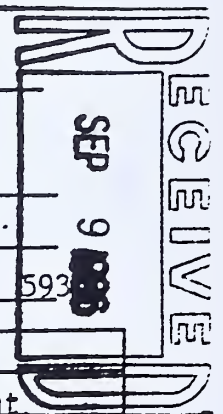
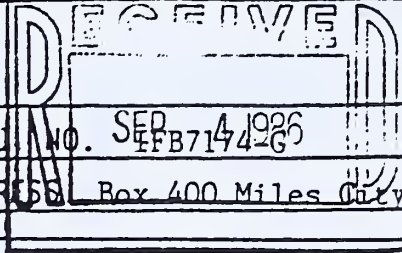
PAYMENT REQUEST NO. 5

FROM August 11, 1986 TO August 31, 1986

PROJECT NAME Mine Shaft Capping Project - III

LOCATION Silver Bow County - Butte

NAME OF CONTRACTOR E. H. Oftedal & Sons, Inc. ADDRESS Box 400 Miles City, MT 59301



| CHANGE ORDERS                            |                                      |             | CONTRACT STATUS |                  |                    |                   |
|--|--------------------------------------|-------------|-----------------|------------------|--------------------|-------------------|
| No.                                      | Description                          | Amount      | Total Amount    | Completed Amount | Uncompleted Amount | Per Cent Complete |
| 2  | Remove Excessive Amounts of concrete | 39,971.11   | 277,060.49      | 246,650.96       | 30,409.53          | 89.02%            |
| 3  | Alternate Beam                       | (11,780.00) |                 |                  |                    |                   |
| 4  | Haul & Place Cover Soil              | 29,500.00   |                 |                  |                    |                   |
| Total Change Orders                      |                                      |             | 57,691.11       | 48,935.16        | 8,755.95           | 84.8%             |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |                                      |             | 334,751.60      | 295,586.12       | 39,165.48          | 88.3%             |

|  |    |                             |              |
|--|----|-----------------------------|--------------|
| TOTAL RETAINAGE  | \$ | COMPLETED TO DATE           | \$295,586.12 |
| SECURITIES ON DEPOSIT  | \$ | PLUS MATERIALS ON SITE      | \$ -0-       |
| ADJUSTED RETAINAGE   | \$ | TOTAL COMPLETED TO DATE     | \$295,586.12 |
| *For use only when securities are on deposit in lieu of 10% retainage. |    | *10% OR ADJUSTED RETAINAGE  | \$ 14,779.31 |
|  |    | TOTAL AMOUNT EARNED TO DATE | \$280,806.81 |
|  |    | LESS PREVIOUS PAYMENTS      | \$236,637.67 |
|  |    | AMOUNT DUE THIS PAYMENT     | \$ 44,169.14 |
|  |    | LESS 1% TAX                 | \$ 441.69    |
|  |    | TOTAL DUE CONTRACT          | \$ 43,727.45 |

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

Approved By:

E. H. Oftedal & Sons, Inc.  
(Contractor)

Owner

By [Signature]  
Date September 3, 1986

[Signature]  
9/8/86

RECOMMENDED BY:

[Signature]  
(Engineer)

By [Signature]  
Date 9/4/86



# E.H. OFTEDAL & SONS, INC.

## STATEMENT

An Equal Opportunity Employer

### CONTRACTORS

P.O. Box 400

Miles City, Montana 59301

(406) 232-5911

Date: Dec. 30 19 86

Department of State Lands  
Capitol Station  
1625 Eleventh Avenue  
Helena, MT 59620

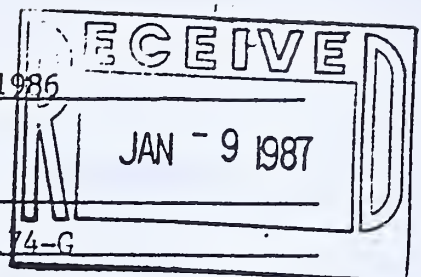
TERMS: 1% 10 day net 30. All charges  
30 DAYS PAST DUE SUBJECT TO 1¼%  
PER MONTH SERVICE CHARGE. AN  
ANNUAL RATE OF 18%.

For work completed on Project No. IFE7174-G

| Date | Description                   | Amount    |    |
|------|-------------------------------|-----------|----|
|      | <u>Colorado Mine Site</u>     |           |    |
|      | Fertilizer 1150 lbs. @ \$2.40 | \$ 2,760  | 00 |
|      | <u>West Gagnon Mine Site</u>  |           |    |
|      | Fertilizer 900 lbs. @ \$2.40  | 2,160     | 00 |
|      |                               | \$ 4,920  | 00 |
|      | Retainage Reduction           | 14,779    | 31 |
|      | Total Due                     | \$ 19,699 | 31 |
|      | Less 1% Tax                   | 196       | 99 |
|      | NET DUE                       | \$ 19,502 | 31 |
|      | Total                         |           |    |



FROM September 1, 1986 TO December 30, 1986



PROJECT NAME Mine Shaft Capping Project-III

LOCATION Silver Bow County

PROJ. NO. IFB7174-G

NAME OF CONTRACTOR E. H. Oftedal & Sons, Inc. ADDRESS Box 400 Miles City, MT 59301

| CHANGE ORDERS                            |                                |             | CONTRACT STATUS |                  |                    |                   |
|--|--------------------------------|-------------|-----------------|------------------|--------------------|-------------------|
| No.                                      | Description                    | Amount      | Total Amount    | Completed Amount | Uncompleted Amount | Per Cent Complete |
| 2  | Remove Excess Amt. of Concrete | 39,971.11   | 277,060.49      | 251,570.96       | 25,489.53          | 91%               |
| 3  | Alternate Beam                 | (11,780.00) |                 |                  |                    |                   |
| 4  | Haul & Place Cover Soil        | 29,500.00   |                 |                  |                    |                   |
| Total Change Orders                      |                                |             | 57,691.11       | 48,935.16        | 8,755.95           | 84.8%             |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |                                |             | 334,751.60      | 300,506.12       | 34,245.48          | 90%               |

TOTAL RETAINAGE \$ \_\_\_\_\_  
 SECURITIES ON DEPOSIT \$ \_\_\_\_\_  
 ADJUSTED RETAINAGE \$ \_\_\_\_\_

\*For use only when securities are on deposit in lieu of 10% retainage.

COMPLETED TO DATE \$ 300,506.12  
 PLUS MATERIALS ON SITE \$ -0-  
 TOTAL COMPLETED TO DATE \$ 300,506.12  
 \*10% OR ADJUSTED RETAINAGE \$ -0-  
 TOTAL AMOUNT EARNED TO DATE \$ 300,506.12  
 LESS PREVIOUS PAYMENTS \$ 280,806.81  
 AMOUNT DUE THIS PAYMENT \$ 19,699.31  
 LESS 1% TAX \$ 196.99  
 TOTAL DUE CONTRACT \$ 19,502.32

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

E. H. Oftedal & Sons, Inc.

(Contractor)

By [Signature]

Date December 30, 1986

RECOMMENDED BY:

Hydrometrics

(Engineer)

By [Signature]

Date 1/5/87

Approved By:

Owner

[Signature]

1/8/87



# E.H. OFTEDAL & SONS, INC.

## STATEMENT

An Equal Opportunity Employer

CONTRACTORS

P.O. Box 400

Miles City, Montana 59301

(406) 232-5911

Date: June 22 19 87

Department of State Lands  
Capitol Station  
1625 Eleventh Avenue  
Helena, MT 58620

TERMS: 1% 10 day net 30. All charges  
30 DAYS PAST DUE SUBJECT TO 1½%  
PER MONTH SERVICE CHARGE. AN  
ANNUAL RATE OF 18%.

For work completed on Project No. IFB7174-G

| Date | Description                            | Amount    |    |
|------|--|-----------|----|
|      | <u>Colorado Mine Site</u>              |           |    |
|      | Seeding 71.8 Lbs. @ \$7.19             | 516       | 24 |
|      | <u>West Gagnon Mine Site</u>           |           |    |
|      | Remove Mine waste dump 175 CY @ \$2.90 | 507       | 50 |
|      | Seeding 56.6 Lbs. @ \$7.19             | 406       | 95 |
|      | Total Due                              | \$ 1,430  | 69 |
|      | Less 1% Tax                            | 14        | 31 |
|      | NET DUE                                | \$ 1,416. | 38 |
|      | Total                                  |           |    |



FROM December 31, 1986 TO June 22, 1987

PROJECT NAME Mine Shaft Capping Project-III

LOCATION Silver Bow County

PROJ. NO. IFB 7174-G

NAME OF CONTRACTOR E. H. Oftedal & Sons, Inc. ADDRESS Box 400 Miles City, MT 59301

| CHANGE ORDERS                            |                                |               | CONTRACT STATUS |                  |                    |                   |
|--|--------------------------------|---------------|-----------------|------------------|--------------------|-------------------|
| No.                                      | Description                    | Amount        | Total Amount    | Completed Amount | Uncompleted Amount | Per Cent Complete |
| 2  | Remove Excess Amt. of Concrete | \$39,971.11   | \$277,060.49    | \$253,001.65     | \$24,058.84        | 91.3%             |
| 3  | Alternate Beam                 | (\$11,780.00) |                 |                  |                    |                   |
| 4  | Haul & Place Cover Soil        | \$29,500.00   |                 |                  |                    |                   |
| Total Change Orders                      |                                |               | 57,691.11       | 48,935.16        | 8,755.95           | 84.8%             |
| CONTRACT TO DATE INCLUDING CHANGE ORDERS |                                |               | \$334,751.60    | \$301,936.81     | \$32,814.79        | 90.2%             |

TOTAL RETAINAGE \$

SECURITIES ON DEPOSIT \$

ADJUSTED RETAINAGE \$

\*For use only when securities are on deposit in lieu of 10% retainage.

COMPLETED TO DATE \$ 301,936.81

PLUS MATERIALS ON SITE \$ -0-

TOTAL COMPLETED TO DATE \$ 301,936.81

\*10% OR ADJUSTED RETAINAGE \$ -0-

TOTAL AMOUNT EARNED TO DATE \$ 301,936.81

LESS PREVIOUS PAYMENTS \$ 300,506.12

AMOUNT DUE THIS PAYMENT \$ 1,430.69

LESS 1% TAX \$ 14.31

TOTAL DUE CONTRACT \$ 1,416.38

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

E. H. Oftedal & Sons, Inc.

(Contractor)

By [Signature]

Date June 22, 1987

RECOMMENDED BY:

Hydrometrics

(Engineer)

By [Signature]

Date 7/6/87

Approved By:

Owner

[Signature]

7/10/87



APPENDIX II  
PROJECT INSPECTOR'S DAILY LOG



3/17/86 cont'd

1:30 to Colorado site - two tractors  
there trying to contact Prindle. Did  
not make contact until afternoon. Tractor  
called P & A several times during P.M. did  
not find Prindle.

3/18/86 -

8:00 to Colorado site - Leppo tractor  
(Tom Tractor there) no Prindle -

Prindle showed up at 9:15.

Discussion with Prindle

Will start loading about noon  
Have one truck of her own  
Has a pickup that will be here about  
noon.

Small backhoe & 3 tractors are Leppo  
told him he must see the city  
about using street  
He has contacted the state Govt. W. per. ment  
He has no dog

Page 1

3/17/86

8:30 call from Bar Humber - Contractor  
applied to start.  
He will call me.

9:15 - no call from contractor

Called Briscoe - Buffalo shaft to  
be covered.

Buffalo

9:30 - Found contractor (Scott & two men)  
covering shaft with 8' (4x4's)

Told him to extend cover to east  
& wait of cover compartment to cover  
rest of shaft

Both have covered and from under the  
collar side. shaft in Bad shape -  
Dangerous

Contractor started at 8:30 - had contacted  
Solieri & got 4x4's at the Kelly

Finished covering shaft at noon.



1:30 Ted Pundt about Bob's decision

He (Pundt) will talk to Brauer

LW Talked with Solari.

MR will not open the pit edge - want to be paid

will charge 90/hr for PG

think it will take about 1 1/2 to 2 hrs per day.

4:30 Down ran out of diesel - looking around for source of Diesel.

35 Truck loads,

350 CY

He said that someone (Montana Brown) would punch dump material over edge of pit Solari called.

Montana Brown (MR) will punch over at a price comparable with local charges. Will not allow a leak being found by but dumping

Contractor talked with Solari and was told that waste must be pushed over into the pit.

Solari wants a copy of the Insurance certification -

11:30 Called Brauer told him the sad story. Brauer will send a copy of the insurance certification,

Brauer said that the contractor is responsible for punching the waste over the pit edge (Page 72 of contract)



Page 6

3/19/86

Checked loading at 8:00

3 Trunks running

Told that the loader operator was not digging down to bottom of waste.

Said that we considered the

clearing (Ponding on pit edge) of the dumped

waste was the responsibility of the

Contractor.

Scott said that he would see or

shut down the project if he had to pay for it. Said that M.R. promised

had said that he could dump on the designated area but none local him that he had to pump the material over the pit edge. He is going to call Benice.

11:00 loading 3 trunks - no problem.

Still not digging down to gravel.

4:00 all ok. 175 boxes 1750 cy

3/20/86

Started 7:00

4 Trunks running

1 Loader

1 small cat-backhoe pumping over

5 men

Comment - Loader operator filling bucket only

1/2 to 3/4 full.

Talked to Scott about agreement with M.R. to pump waste over the pit edge.

Talked to Solari about agreement & that Scott would be seeing him. Solari said price was \$2.75/hr

2:00

Deagon from M.R. started about 1:00 & pumped

waste over pit edge.

4 Trunks running.

Not digging down to old earth

Told Scott about it yesterday & again today.

Today.

Noted Trunks not full - Loader Bucket not full.

Old 12 E grader arrived

Shift from 7:00 AM - 6:00 PM

144 loads

1440 cy



3/23/85

no work Scott went to Billings

3/24/85

Loader broke down after fire loader  
Took it apart - no more work for the  
day

3/25/85

no work in AM.  
Started working with a Byard Clark rented  
from Joe Roberts  
started loading north of the wall & will work  
out behind it & see how big it is  
Will land off loading crane by purchasing into  
the hole at the wall - D8 doing today from  
Merced.

Worked to E. P.M.

Digger arrived at Noon - cable D8 (old)

3/26/85

loading with Byrd Clark D8 pending to loader  
2 Buckets per truck - bucket not heaped.  
Truck not full.  
Digger - D8 not working - uncovered concrete.

3/21/86

Shift started 7:00 AM  
4 Trucks

Ram grade (Patel) lost mite about back -  
did get down to material earth in some  
area. Soil soft under dump. Will have to work on some more.  
Buffalo shift over OK.

Deftail area all cleared yesterday  
Dumping in tight row not on long ~~Exterior~~  
which will reduce pick-over time.

Some trading on Ohio St. more on  
Mercury street. 188 Lower  
1890 27

3/22/86 Saturday

9:00 mounting equipment & cleaning up  
Loading one truck - one on the loader  
Hit foundation for old warehouse Film 14 & 15  
Film 13 & 14 hit concrete wall.

Film 16 - digging too deep will have to fill  
hole up - Dug trying to get base of wall.

Told Scott the wall is part of the concrete  
(He worked about an open

3:30 - mounting equipment

(Buffalo shift OK)

Worked on Ohio Street Breaking up badly.



3/27/86 cont'd

4:00 - Had tunnel portal opened - all clear inside to the open hole - appears to be a slight further in. Did not go into Tunnel had no conds.

Contractor had moved to the southwest corner of dump since 3:00 - said he could do so & that it was easier digging

~~water~~ Ran out of Diesel on loader 5:10

Evening started putting 3 buckets in 2 large Trucks instead of 2 - Still 2 buckets in 2 smaller Trucks

3/28/86 on SW corner

D8 still on site but

4 Truck Run

Parking on with small loader -

Suggested to him to clear out his back bucket about 3/4 c.y. in bucket. Cleared bucket.

2:30 at present

Small dig down

4 Truck running

3 buckets in large truck 2 buckets in small

4:30 at site - leaving - will not work the

Weekend - Big loader going back to owner

Sweet said will be working on small loader

on 3/28/86 and to 3/29/86

loader like a tunnel - 10' across the top - will clean off tomorrow and we can get a better look at it.

P.M. - Still no D8 -

4 Truck working all day

3/27/86

making 4 Trucks -

1 Backhoe loader pending to loader.  
(1 - Had Clark loader

about 3 1/2 hrs by MPT pending over dump D8 still not working.

Truck loaded with two buckets - are light loaded. - The two 14 yd trucks very light.

Scott claims that they are loading 10 yds. We will profile both buckets.

2:00 Loader opened a hole into the tunnel -

looks to be about 7' x 7' with 10" of concrete.

Told to much open the portal so that W/C can enter.

Flat Tire on big loader

Profiled the bucket on the loader

Small - 4 1/2 c.y. Haul  
6-19 - 3 1/2 c.y. Haul



3/28/86 cont'd

needed soil at 4:30 to cover opening but he had already sent everyone away. Said he hoped that ~~that~~ ~~it~~ no one would be in or go into tunnel.

Closed down at 4:30.

3/29/86 9:00

Daniel & I covered both openings of the tunnel of the tunnel

Mechanics working on the old loader.

3/31/86

Didn't arrive on the job until 9:15 4th Clark Michigan on site. <sup>responded</sup> old allie chairman appeared to have been ~~in~~ <sup>in</sup> I been moved across the street.

10:00

Fueling & greasing equipment

Met with union - had to get contract made with Pippo's and get copy to union - can't work until noon.

are going to me. Allie chairman to send down to the loader. Advised that this is dangerous & could tip over the loader. One senting a 175 Michigan to load trucks

3/31/86 cont'd

Talked with Wilson - he will fill the seat the driver & B's for the push cut to date.

Started loading at 12:00. 3/4

Using 175-5yd loader - filling bucket 1/2 full

2:00

Started filling bucket full - 2 buckets per truck

Took loader off from pushing over dump & went back to some cat pushing over will give me the payroll & thank

-Allie tomorrow.

Ran 5 Tractor all afternoon

2 Buckets from 175 B per load.

Pushing over but with small bucket on

Contractor worked to 9:00 P.M.

4/1/86

5 Tractor running

175 B loader & small bucket loader

Flot of operators vary as union

will tell but the loader operator

over not seem to know how to

keep a smooth grade, will have to

put good operator. The side area.

For job of loading.



4/3/86

8:00 5 truck moving

Have climbed terrifically in the Southwest area. Scott had it spinning for ~~the~~ covered. About 6' too high.

2:00

one truck down

Trailer operator doing some better with filling the bucket

Scott told about the final measure at 8900 C.Y. Warn't too happy Scott felt that there is no record - we told him there was about 1.3.

4/4/86

8:00 P.M. - N. parking area can't dig back with 5yd loader - will use 4yd loader to push with. Small piece loader "down"

Again I recommended that they not use the 4yd loader to push over the bank - too dangerous

8:30 finally got small track loader moving using 4yd allie chain to push corner off

4/1/86

4:00

5 truck  
1-175B loader

Small backhoe loader

Bottom started up hill. Scott told he would have to take it down. The rail doghouse is ready tomorrow. And he will cut it down.

Buffalo Sling - Kirk had taken one 4x4 from cover - replaced it.

4/2/86

8:00

5 truck  
Small backhoe loader  
175B - 5yd loader

Climbing uphill reel has about 3' above grade. Told Scott - rail no problem that that he could dig it down - double dig with cube digger.

3:00

4 truck

climbed again - about 6' high - told Scott again to get loader operator to take it down to grade - again rail no problem could dig it down - (double dig)

come over



4/17/86  
 Truck not loaded full  
 with 4th & 5th  
 something to do with 4th & 5th  
 4th & 5th  
 4th & 5th  
 4th & 5th

4/17/86  
 Scott had washed Sunday. out floor of pit  
 down with the 4th loader. On fair slope  
 now.

5 trucks  
 4th all in chamber } running  
 5 yard Michigan }

Using the upper chamber to pump over  
 (new danger zone)

4/17/86

Had dumped 4th on - good - changed  
 out on 5th loader - had small about 4th  
 getting too deep in 4th sink - and  
 started to bring 4th down up to 4th  
 otherwise looking good all 5 trucks  
 running

4/4/86 end

Seems to be better in the original surface  
 possibly a small ridge. Tied the  
 entrance to stay with the natural surface

3:00

But many 4th all in chamber in 4th  
 out - didn't do much good.

Scott says 4th will be ready Sunday  
 need no 4th or 5th  
 Dump all 4th & 5th  
 2:30  
 4th & 5th

4/5/86

Pushing over dump with all in chamber  
 (danger zone)  
 Shuffling between 4th & 5th  
 Started at 6:00 - 5th pumped out 4th  
 As filling bucket - heaped  
 Digger alleged to be operating 7:00  
 5th climbing southward over 4th  
 On 4th could not get pit - appear  
 to be a ridge.  
 5 trucks  
 1-5 yard Michigan loader  
 1-4 yard all in chamber.  
 2:45 - Have climbed 4th higher  $\pm$  8' high  
 pushing with all in chamber



4/8/86

6:30 AM

started at 8:30  
3 1/2 cu yd of gravel muck  
5 trucks running  
mucking NW corner of west face  
clearing off top of concrete tunnel with  
allie chalmers loader.  
working on Digger (cable 8) still not  
running.

Comment - operator of Cat 96C filling truck.  
He is an operator that come with the contractor  
2:00 Digger did not start - broke gear between  
starting motor & motor engine.

Finished ~~loading~~ <sup>transporting</sup> material  
from top of concrete tunnel.  
Didn't work in P.M. - sand truck  
driven home.

Allie Chalmers loader washed away  
the tunnel 8:15 - 2:00  
about 100 to 125 cu yd of waste  
piled ~~up~~ from the tunnel cover.

4/8/86

8:30 AM - inspected project - pit floor  
looked OK. Discussed Scott's plan for the  
tunnel removal. All 5 trucks running.

1:30 PM - loader down - looks like station  
left front wheel, Scott's loader won't lift  
A full bucket - something wrong - Scott  
went to get another loader tested. Checked  
the Digger - all looks good.

4/9/86

8:00 AM - Had 96C cat on job with  
a good operator - floor smoothed &  
graded. Instructed him on grade of  
floor. Scott called me to call office concerning  
the partial payment.

1:00 PM - going well - floor ready to  
grade - all five trucks running.



4/12/86

7:45 no one working

~~7:45 no one working~~

~~7:45 no one working~~  
no one working on the dozer.

5:00

Had not worked on loading.  
The Dozer appears to have been moved.  
Bad storm - Give one day for  
Weather.

4/13/86

Heavy snow - Give one day for weather

1:00 to fix site. No one working -  
to Buffalo shaft - cover ok.

8:00

4/14/86 - Dump area still wet  
no one working

11:00

Dump site wet  
No one working

3:00 - working on Dozer  
Threw a rod on starting motor  
Sittl had cleaned up & filled some material  
at west side

4/15/86 8:00

Both loaders working on west side  
Allie Chalmer mucking from base & 175 loading from  
pile. 5 trucks - 2 loaders

4/11/86

8:00

5 trucks running  
using 175 Dozer on Sooty

Pulling with allie Chalmer. - again to 80  
Sittl that this was dangerous.

Working on dozer - still not started.

1:00

Allie Chalmer removed the parts & cast  
of the air shaft. Told allie Chalmer operator  
to further remove shaft - Pulled parts caper  
& hanging both. Appears to be filled - at least  
top. Thompson.

Got into a struggle with Sittl. He  
resented in telling the loader operator how  
to remove the air shaft. Sittl got over  
his mood spell  
Quit working on the dozer -  
continued peeling with allie Chalmer

4:30

allie Chalmer not working.  
Sittl gone - Peck operator driving truck.  
5 trucks running



10:00 AM - Gave progress maps to Scott.  
Told him he was high on S. End

2:00 - Crew all working - Down  
Still went in - High on S. Side

4/9/86

8:15 Crew working

5 Truck 2 Loaders.

into all rubble pile north end. Small  
loader used to stockpile from this area.  
Told Scott no extra for rubble pile. In  
contact. Told Scott when extra for  
uncovering tunnel

Scott showed me a small subsurface  
on top. in the area where the fan was removed  
(close to a shaft) Told Scott to be careful  
when loading in this area

12:45

Still working on the rubble pile  
almost cleared out.

Scott on the 175B cut through the  
south side - at 10' to high at East end.  
Told Scott he was cutting too high

4/16/86

7:45 Scott called about the dump

8:00 - No one at the prospect - very wet

One day for weather

4/17/86

9:00 AM

Crew working - gave Scott the  
pay quotation. Piled and moving  
deposition on North end.

2:00 PM

Crew removed old fan - taken  
like old cell are bin also - Took  
photos.

4/18/86

7:30 AM

Crew working - cautioned Scott about  
possible shaft on South end of  
dump where the old fan was  
found.



4/21/86 Cont'd

6:00

Working 5 trunks - 2 loose

Doger arrived - D & M, 24 Trunks.

Told Scott that we would

give him 2 hrs for the AC on our

expense for the wood in the slumps.

Scott blew his stack and about

40 AC down. Scott's estimate

full time for the AC on our

expense. Refused to sign Expense Estimate.

4/22/86

8:00

5 trunks, both loose in walk

AC on NW face where the

questionable wood is located.

Scott raised no questions

12:00

with Brisco, Mundie, David & I

met with Scott about other

for the wood - Told by Brisco that

he agreed with us. That 25% of

for the AC was fair. D-8 running.

4/19/86 cont'd

4:45

Working 5 trunks

all trunks running

Small hole in stack in rubble.

4/20/86

8:45

New working all equipment

3:00

David & I met with Scott

& reviewed the expense estimate at

a compromise on the charges

with respect to the estimate. Explained

to him the method of survey & volume

4/21/86 -

8:30-9:00 Total crew working

Scott still much to high, about 10'

A.C. lower on north face -

not much wood - a small portion

of the face in the wood.



4/27/86

Summing - all crew working  
Working start being muddled badly  
loader cutting up with Doga - not enough  
Doga pushing to far  
muck

5:30 Scott called at 5:00

D-8 Pushing material over rd - from

area. Down to base milled on Top

Started using Doga to push &

up out steel. Large pieces of beam.

Widely from Pit going direction.

Re Ripping with tooth from side &  
bottom. to 8:30

Extra on Doga 3hr

Did not give extra on Doga for pushing  
much from the Top

Give 1 hr on loader for removing  
much to get at steel.

4/25/86 6:00

Not finished with steel - took several  
pictures - not working yet.

4/22/86 Cont'd

peeling loose much - started  
Pushing over the top. Bill  
leaving to run the Doga -  
first time that he has run  
a Doga.

3:00

All equipment working

Doga pushing over - keeping loader  
supplied with material

Scott signed both the extra work  
Daily Summing & the work Dierette  
change. One of the trucks fined  
\$140 for overload.

4/23/86

8:00

~~1~~ 1 hour, 1 D8 & 5 Trucks running  
Scott asked for 1 hr on D8 & 1 hr

on the 775 B on an extra for

4/22 - 9 hr thought that he should  
be paid for the extra  
We refused to honor the request



4/26

ten work (Extension  
Cave day)

4/2

No

4/28

20

1758 5 truck

Have a stone yard in middle  
of mine to pile of steel left to  
pull in all sort of steel

(Don't to dig down in  
stone mine and get take away  
a lot of material)

When I sawd heard along  
the ~~side~~ <sup>side</sup> of the valley.

12

all

3 Extra  
Horse

A.C. steel from Dump

Hit in front of tunnel 7:00-11:30

at the mine

4/25/86 cont'd

8:30

Pulling steel over with D.O. or (later 8:18)  
Worked with doger to 9:00

Mr. Epton on D.O.

Since A.C. loader started dragging  
steel from pile C 9:15

Michigan loader moving from pile  
5 truck running

D.O. at 9:00 back on pushing much  
11:15

Pulling steel with small loader  
(4.c) and piling in vacant lot

D.O. pushing over to the Michigan.

3:00

A.C. pulling & dragging steel  
snowing very wet

all trunks, loader & doger working

5:00 pushing pulling and dragging steel  
very wet street a more

steel piling

Good 7 1/2 hr on A.C. or other



4/29/86 cont'd

When breaking the sidewalk and clearing  
manure street. Summit pulling Rail  
part by rearing them with a chain &  
pulling them out with the 175 B. loader

4/30/86

7:45 Pull ahead a few of the rail parts  
Broke the sidewalk in several places.  
all equipment working.

Cutting torch in operation - was cutting  
piece of flat steel that could have been  
easily loaded in a bucket. Suggested to  
cut welder that it shouldn't be cut  
that small - he stopped

Scott told the Lake Camp materials  
only also told loader operator not  
to cut into the natural soil.

11:30

Loader operator had cut heavily into  
the natural surface some timber  
loaded with soil only. Again  
Scott and operator told to not scrape

4/28/86 cont'd

3:00

Agreement with Scott to pay \$36/hr  
for cutting up the steel  
Disassembled timber wall from  
north side of Manure Street  
Have uncovered soil largely in the  
area north of manure.

4:00 - 8:00 - cutting torch on steel pile.

4/29/86

8:00

Work started at 8:00 with cutting torch.

Have dug 3' below the sidewalk  
grade north of manure - cautioned again  
Scott & Bill about digging too low.

Summit heavy -

9:15 Scott called had to shut down  
will keep loader and loader working

1:30

Have used loader & dozer to clear ~~steel~~ <sup>old timber</sup>  
along along manure street. Had tried  
pulling Rail parts on starting out the  
Wednesday. We stopped him because he



5/1/86

8:00 - Repairing Down - Start, to haul shed  
Truck & loader on Dues

9:00

- Started layer on tunnel  
west over plan of removal with

Scott. Approved Scott's plan

5:00

Still putting with clayor. Second  
tunnel area. Long OK.

4/30/86 cont'd

exp. road - too leave it in place.

1:30 p

And show by - doing a k  
re cleaning fairly well.

4:30

Practically cleaned up on the  
south side

Scott wants to start on tunnel  
tomorrow - states that Braces

said he would give him a  
week for return. 999

Plan to use a loader, loader  
and three trucks - two mung  
trucks. one truck and A.C.  
load on sleep steel.



Scott said that Maurice  
asked him to keep with  
Selden and - we too km to follow  
Selden

(Leave fan room & adaptation  
entirely proceed with the

slab cover over the c/o shaft

perhaps sent back to Lake Mead

Shall dump waste clean to Soil not lower

7.30

4 trucks loading the oil warehouse

debre. Dager puding over Kong weel

Secret to close portal of

the tanned

closed down at 8:30

5/3/86 8:02

holding cable - 22 wire line

Stueker, Foster & Dyer.

all extra work,

12,000 Left for Ballerige

4 hr for 5-trach

5 hrs for Sander & Dager

28/2/82

2:30

Don't moving much from around. Tissue.

London - Corning - Buckle!

Paul & Virginia - large site -

and fan area - Fan, buffer and outside

trees in place. all area smoothed - appear

to be a tube to old Pine Ridge shaft.

not running track to 9:30

9:30 started loading trucks

4 on east side 1 on seap steel

58:21

Here broken about 50 feet of the

old tunnel and sealed the concrete

up to be loaded every 4 trucks to

Wood Tunnel closure

Push Brains into funnel made

decision to break kernel complete

Full number 30-30 at least 72  
The same as 30-30 in number 8

Dep. 1<sup>st</sup> in the 20th & 21<sup>st</sup> of June

11-1-10



5/5/86 GWT

Found out what he wanted  
reworked tally for cable Friday  
4- Saturday. Will he could  
possibly get a tally together

Scott & I measured the  
floor area of the warehouse  
and estimated the depth of the  
cable at 8'

$$\text{Total } 47' \times 82' \times 8' = 1141 \text{ cu yd}$$

5/6/86  
7:45

Doger just started

42 trucks running

More just started @ 8:00

275 Michigans running

Told Scott that I wanted a  
tally of Friday & Saturday's work.

Doger pushing a lot of extra work  
from the north side of the old  
warehouse.

Base storm

5/4/86 No work. Scott at a event to Billings sat.

5/5/86 7:00

Scott called last night about the  
Weather & mud - it was raining slightly  
Scott called at 6:30 AM - will be  
here and start truck at noon.

Doger working cleaning out along  
west side of tunnel well. Has  
considerable debris piled.

12:00

Doger finished removing materials  
on west side of Tunnel. Now pushing  
warehouse debris into a pile.

4:00

Doger pushing debris.

No load. Scott has rented a  
74' City Loader that will be

here tonight. Farther too big for  
the job - too big for the truck.

Told Scott that we would pay  
extra for equipment but would rather  
the volume loaded for the debris.



5/6/86 cont'd

Job - Sect 11. Just opposite to it.

3:30

Rubble pile piled some concrete & steel from tunnel yet to clean up. Dozer directed to punch trench full from the west side.

6:45

Enter, 4 Trucks @ 13 hrs  
1 Truck @ 12 hrs  
275 Michigan @ 13 hrs  
D-8 cost @ 12 1/2 hrs.

5/6/86 cont'd

275 loader operator not fully bucket & truck not fully loaded. Dozer using tooth & floor of wheel - coming in early.

11:00

Told Scott that the extra we're there as of tonight and we would ~~provide~~ fill back 1140 cu yd from total volume. After considerable argument he agreed. An alternative was if we continued extra. They we would have back all by his tally @ 8 cu yd per truck.

8:00

13 1/2  
52  
12  
64

Fran Baroni helped with the closer and the tunnel concrete was broken down - the roof lifted off and pushed away to the station. The ~~tunnel~~ was filled and the trench partially filled. The opening in the tunnel pushed full with the door. David & I forced the



5/7/86 Cont'd

3:00

Looking from NW corner. Hit  
a foundation - looks like Dave  
Daly built here. Contractor tried  
to dig around foundation, then  
piled it over - will look at  
it when he has it cleared.

5/7/86

7:00 PM

Working at NW corner of dump  
Have cut a trench on east side of  
foundation. Have moved <sup>top</sup> much from  
West face of leg frame pier.

5/8/86 8:00 alignment work.

5/8/86

10:00 AM

was over doing with Scott. Argued  
about extra work on concrete foundation  
Scott asking for extra on foundation  
Has called Bruce the night before  
complaining about more extra.

5/7/86

7:45

5 Trucks - 275 Michigan - D.R. cut under  
loading from NW corner.

MORE structure needed in the front.  
Scott told that all was to meet  
now be removed from the surface & not  
scattered around. The only waste  
material left are in those areas of  
fill - Southwest corner & the trench

11:45

Digger pending on the NW corner of  
the dump. Hit a foundation  
West of the Dave Daly shaft - probably  
he built here.

Told Scott that he had to  
make up his mind whether he  
is going to dump in the Synchro site  
or the Berkeley



5/9/86

9:00

Boice inspected the property.  
Scott still ended for much  
extra work. Boice said to limit  
the extra to the external work  
done by each piece of equipment.  
11:00

Doger had pushed wall frame  
over, ready to load.

Scott said he would accept  
the time of loading the slab &  
the Doger pushing. He will over  
& one truck part time hauling the  
slab.

3:30 Truck not working

Had pushed one lease frame pier  
& the loader carried it to the  
spile.

Worked on other pier. (Very large  
about 6' x 6' x 6'). Pushed it to  
the trans & will carry.

5/9/86

2:30 PM

Stopped down on west side - to  
grade. Ask Scott to finish the  
out building concrete on west side.

5/9/86

7:45

7:45 working - Scott showed up.  
Wants extra for foundation (only half hour)  
wants extra for cold start house -  
Feel possibility for pushing over foundation  
week on extra.

Told Scott that he was high in several  
places & did not get down to National  
Site & that it would have to be done before  
finishing grading.

Cut wall then for pour on final grade  
operator can do the work.

Comment: operators are no  
inexperienced that their getting in  
seriously lost



5/12/86

8:15

Struck, 275 lbs. 4 D-8. Dora operating.

Handling stacks of waste piled high afternoon.

D-8 Dug hole in trunk & buried pieces.  
piled some material into trunk.

Will start to push rock around Dora.

Daily adpt collar - Concrete 7' plan clear  
ad ad of tubes.

Told Scott the an extra for the Dora to  
push around the adpt waste to point.

11:00

all equipment working.

Paper filling drums around Dora Dora sh  
ding a good job.

Told him to run Dora over pile to  
compact it.

3:30

Started loading concrete pieces

Large pieces (plain etc.) in large

boxcar & loaded boxcar with concrete.

Station per-trip - Hour 2 by 4:30.

5/12/86 Cont'd

6:15-7:00

Call from Scott - Concrete Project

Large concrete ~~structure~~

down as to be the collar & the

Dora Dora & end of the concrete tube

from the 21 foot back cannot

move it. Told Scott to put

fill back against it & reshape

around it. Will suggest that

we pour concrete on the 3x3' opening

in the concrete.

All project thru - want to

work with Scott.

5/11/86 3:00

To project to review the scope of  
work for protecting the Dora Dora  
shaft.



✓ 1/4 8:30 5/12/86 cont'd

2269 - same as 2267 1205 64 2014

on extra sewing was in <sup>the</sup> ~~the~~ center

4:00 started looking ~~around~~ <sup>carefully</sup> benches with

small lower - Total Scott Island - I  
would give him 30% of the trade

friend - no longer.

6:45 Looking from mile of shore & clearing.

Big loader hauling concrete slabs & <sup>large</sup>

hard to protect the traffic.

Small border filling trenches with  
smaller stone, timber etc.

5 freer working.

Furnished sleds & most of the

Told Scott no sperm after 7:30

Pig Euthanasia - 4:00 - 7:30 - 3 1/2 hrs.

Small folder - nothing

5 + mchrs @ 80% 4:00 to 7:30 -

$$(5 \times 34 \times 30\%) = 5 \frac{1}{4} \text{ diam tot.}$$

Grado y Conector



5/14/86

F.H.

1:05

Working on shaft collar

Told Scott that he had to compact with  
a vibrating roller - could get one at  
Gilman. Found that the shaft  
collar had 1' (4" + clay) <sup>white</sup> around the  
shaft - 4' under.

1/2

4:00

Dger closing over around Frank's  
garage.

A little work around the shaft  
Told Scott to compact fill in  
water pan.

Will pour 160 Blak + overnight  
beginning at 5:30  
7:15

Dger only working - Finish grading.

5/13/86 cont'd

4:30

Relief mound too high south of  
Colo - told dger operator to  
take it down.

5/14/86

8:00 Working ~~over~~ on dger & equipment  
Scott & 2 men on the job.

Went over the final grading plan with  
Scott. Also told him about carrying in  
the Hirth house & filling - also about  
grading around Colo. shaft.

10:30

Dger finally taking out old piers  
at the Colo shaft. (Piers at raise from  
the tunnel level)

Filling surp at top of raise.

Told Scott it would have to be

compacted in order to support the  
concrete slab.



5/16/86

8:30

Using one truck, hauled a few loads.  
Mainly getting started.

3:00 Picking from south to north.  
Not working. Found few more sand  
what appears to be a tube from the  
shaft to the fan base. Got all the  
dumps in sulphide waste & a  
large portion of the dump & granite  
waste.

5/19/86

7:30

Loading with a Komatsu loader  
from the pile, 4 trucks running.  
Picking much from south to north.  
3:30 Stopped Scott from loading  
oil from south west corner  
three Corvairs & 4 Prius.  
Loaded dumping in the syndicate  
pit. Picking from south to north.  
Have not yet cleared around Fan & Pond.

5/15/86

7:45

Cleaning rocks & debris from area.  
Finishing looking good. Still needs sloping  
around the Drainage.

Will have a slide at 10:00 to finish  
grading - Scott will try to get small  
steel roller compactor from Carlson.

11:00

Grading area with 160 cat loader.  
Scott moving equipment to W. Canyon.  
No work on the Colo. shaft.

2:30

Scott moves loader & Dga to the  
W. Canyon

Scott Tice not to start until offside had  
signal change order. Returned to Basin

~~3:30~~ Surveyed whole - Still need  
some attention along the side walk -  
& some road pile especially in front of  
Frank's place. Did nothing more on shaft  
site.



5/21/86 cont'd

4:00

Taking too much Granite  
again. Told Scott to stop going down  
Excuse me to have a floor to work  
from - Told him to terrace - Take down  
the entire rim only.

5/22/86

10:00

all equipment running  
Scott told to terrace down &  
stop taking all the granite much.  
Said a hard one to convince of anything

4:00

Scott still pushing cleaver - Told  
him to definitely stop - Now he  
asked for extra 11 concrete said  
that Ben Munroe told him that  
probably he would be due some extra  
I called Brian - I can see no reason  
for an extra unless the going  
concrete is much more than I see now.  
Scott granite to put Monica's property back in order

5/20/86 8:45

W. Goggin Project - met with Brian  
& Truher, D-8, Komatsu Loader.  
Have hit original surface w/ty shoff  
Told to not dig any deeper -  
believe off around concrete tube  
and original base. Have wet down road

10:00 -

Scott told to keep reworking up.  
Munroe got call. He & M. from  
neighborhood. Probably clean & wet  
down soon enough

5/21/86

9:15

4 truck - Komatsu & D-8 running.  
Cleaning west edge - In granite waste  
Told Scott to stockpile as much as he  
could - Haven't started on concrete yet.  
talked with George Hatch - they will  
probably be lost & will fill the  
Empire Steel entrance.



5/23/86 Caco from Braces

Ruth took the Caco

From the edge of the road  
the middle of the road with the  
rocks - entirely from the shaft  
sinking. Road clear.

5/23/86

8:00

Still digging in the middle road  
sett to dig on the west edge.  
He is impossible to get three to four  
The middle is granite sand and  
rocks - entirely from the shaft  
sinking. Road clear.

12:00 - Finally digging from the west  
edge.

5:00 - Evidently quit about 4:00

~~7:30~~

5/27/86

7:30

Digging & Piling with loader

Were Piling Soil down the ramp  
to be loaded out.

Told Scott that we weren't moving the  
material for him tonight & that he had  
to do it on his way. He stopped the  
day.



5/28/86 cont'd

12:00

Digging around old engine base with A.C.  
Loading the material to some time.  
We decided to bury the engine base  
digging hole on south side of base.  
Channel along the fence. Digger about  
1/2 required.

4:00

Digger running - digging too deep  
Scott tried - he moved digger to outer (west)  
edge - A.C. loader dug a hole too big.  
Told Scott to stop loading material  
into truck - to undercut the  
concrete slab and tip it over into hole.  
All laid out if they will follow  
direction.

5/29/86

8:00

Truck being loaded on Jackson street.

Scott told that loading should be done  
from within the dump area ~~Washing~~

5/28/86

8:45

Started loading waste along fence  
on Jackson street. Hand shoveling  
around post & cutting off with a torch.  
Hoe, ramped to Scott's jolly-  
in granite work. Told Scott to  
stop machine to east. Left  
behind is a large pile of dirt.

Bulldozer ~~not~~ not working - down

10:00

Loading along Jackson  
agreed with Scott to use  
A.C. loader on an option to  
remove the 2 concrete pieces  
East of 7.5 ft area. A loading  
Some muck into truck - will  
work out with Scott.

Called Montrose Power about (Pole)  
Started Extra @ 9:15 with A.C. loader



5/29/86 Cont'd

Dug. to depth 4' below street grade  
and 30' across. Tied Scott to stop  
digging here and take only 26. sulphur  
along the street. Will be filled back  
in.

7:00

Over down for repair - had  
started to clean out around front base.  
London digging along fence & loading in  
timber that are on the street. Scott  
said he would start on concrete tomorrow.  
Agreed to extrude yesterday at  
corner of London. Fine only (4' x 4' only)  
Empire street unless all  
filled - all dumping from the top.

5:00

Went over area with Scott. Will slope  
the East area & build embankment  
will dig around engine base.  
Have not finished West side (South west corner)  
Pulled 5 posts rather than cut off.



1 6/2/86 8:00

Smoothing east side

Told Scott & Billy to quit & take  
much lava to top of hill. Not to

take any more from under Power line

Told Scott to leave Engine Base  
and slope around the Engine Base.

To peel some more from the south  
side of the East Area.

1/2

11:00

Digging hole for concrete

Trucker hauling waste to Dump

Told Scott should stop hauling  
for the week & start of cover for the  
concrete slab.

3:30

the last truck home

the more one slab to west

side of one slab to East side

Burned & looks good

5/30/86

8:00

Packing crushed waste into pit on  
East section. Shaping hill, grading waste

12:00

East hill shaped fairly well - Told  
Scott to not push much just to have  
a good hill shape coming along.

5:00

Packing on East side

Doing OK. Warned Scott

that we are not just making  
much for the trucker but were  
shaping the area. Told him that  
we need it on the concrete  
around the shaft.



1 acre

live than soil

(A)

analysis

Good 200 T/acre the man 100% analysis

12" Top soil

Log in top

200

(B)

12" top soil

50 T/acre

100% analysis

MX - live in top 6"

C

18" soil

100% analysis

15 T/acre

Mixing into top 6"

D

24" soil

no lime

Balance of W. Gaynor

5 T/acre according to Sepen

col

① 1 1/2 acre - 10 T/acre

②

1 1/2 acre @ 20 T/acre

2 acre @ 5 T/acre



6/3/86

7:30-10:00

Started moving Slabs (from timber & stand)  
with dloger

Started ~~at~~ cutting shaft collar -  
went down 12'

Slabs moving ok. - both grader  
- couldn't use a wrecking ball, too  
much steel

Watched dloger cut shaft collar  
down - all ok.

Scott wants extra for dloger on  
slabs. Will consider some frame  
Slab hand on dloger.

Can bury most of the concrete

11:30-12:00

all ok dloger moving Slabs -  
tough work.

11-5:45- not pay.

ok. Loading concrete - 7th.  
a room for ~~the~~ filler in rock area.

1/4" lime - Amanda Brown Quarry  
Crush & Haul 12' 50"  
Haul also 6' 25"



6/4/86 cont'd

11:00

Dug hole for concrete - hauling spoil from hole away. Told Scott that if he continued to haul he would not be able to get it from the north hill. He persisted in making mud for the truck to haul.

3:30

Had let Truman go.

Purchased one large slab in to take on east side. Put large piece down west slope and burned it.

8:00- Cullen went Scott sending Truman home until the sidewalk is ready.

6/3/86 cont'd

1:15

Picked up Scott - to airport to meet with Brian at 2:00 meeting 2:00 to 3:15 To job site at West Canyon. Digging slab and much from base of Fan stand. To the Ryan soil pile - looked over soil.

6/4/86

8:00 -

Have moved one Fan Piece into the to bury. Large portion of Fan tube broken up & hauled away.

Daga clam for repair.

Shift collar taken down 12' - 19' to go to Buckhead.

Warned Scott that we can't move the collar to the Buckhead length. Warned Scott not to load too much - some stuff to very stable.



6/5/86 cont'd

1:30 Terrible, heavy Rain

2:00 at Project. Home w/ my

Red water filled low area water

Came down across the East area with a lot of mud. Water did flow down alley into stone trough & on into storm sewer

4:30

North end of shaft opened up.

a large concrete block - 8' x 18'

at North end of shaft. small opening on North end of slab - shown on floor plan at 45° extends to the shaft. Evidently ~~solid~~ solid concrete to the surface.

6/6/86

7:15 No more work. Received many notes.

looked down shaft with flashlight. Two north compartments not filled to main level. Culled. appears to be a wooden bulkhead @ 15' below collar that broke through. Called Braier

6/5/86

8:30-10:00

Have local concrete Pier and hole at East side & corner.

Presently doing ~~some~~ concrete in hole along west side of pen area.

8:30-9:30 digging hole

9:40 Picking concrete into hole.

Pulling Pit along Jackson Street.

Completed Extra on ~~the~~ increasing Pen Foundation and air duct.

6/3/86 - 7:30 - 4:30 dig on slab

next day moving waste and digging hole.

6/4/86 -

11:30-4:30 Picking slab into hole

8:00-10:00 digging around slab base.

Sett wanted 22 hour settled on

12 hour which is about half an

we said we would give him 12 hr

used a wrecking Ball

No extra for hauling.



6/6/86 cont'd. At Appraisal today Cap on top  
of concrete slab

9:00-10:00

Digger Runking material to hole to  
cover concrete.

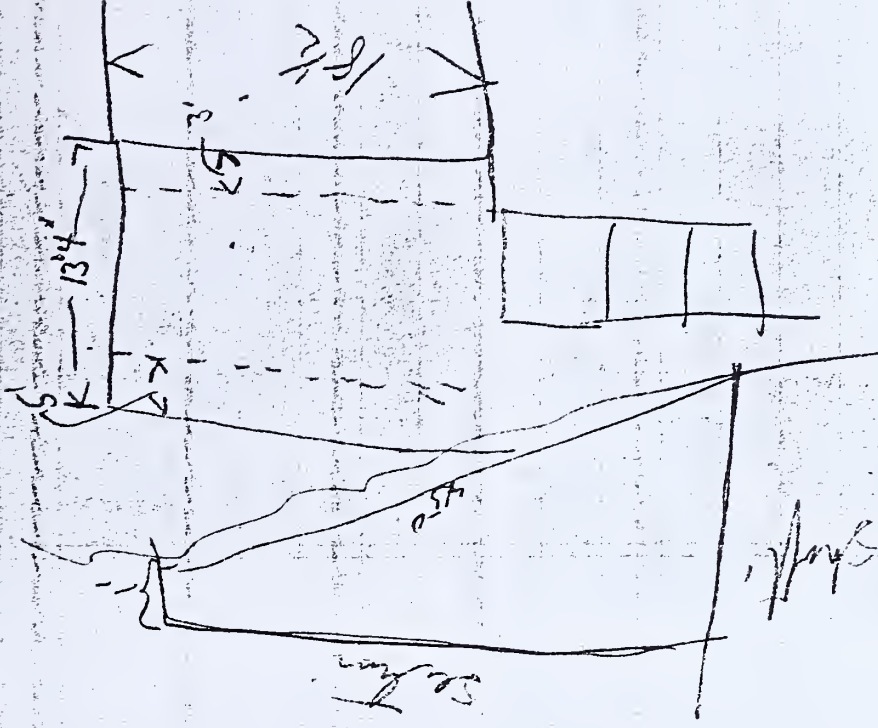
Scott hauled material to Frank's  
place out the hole to fill against his  
property. Also Scott ~~planned~~ placed  
soil against old foundation (thick base @  
also.)

Scott said he was going to Bellman  
for the weekend and leave his truck  
off in ~~the~~ Livingston for a hauling  
job there.

Cerise will dig and ~~scrape~~  
finish gravel at the W. Congdon

Told Scott that we could lay curbs over on top  
of slab.

5:30 more working it appears that  
more work put noon.



done 1st  
off 15 to



6/8/86 cont'd

6:30

No one working

How shaped wait hulls very well  
still need work along the northwest  
side.

Corals still need work.

Rock need hauling away at near the  
Corals shaft. need more shaping near  
the knitted knee. Low spot caliche water.

6/9/86

8:30

No one working. Did not hear from  
Pumelle

11:00 call from Pumelle in town. want  
to talk about putting concrete slabs on  
all three shafts.

11:30

Met Scott at the W. Canyon. measured  
outside of concrete pond.

6/7/86 Saturday

9:00

No one on project  
Patrol zone  
Power pole has fallen over  
Place a horribl mess

1:30

No one working

6/8/86 Sunday

9:45

Mike Corrie doing. Putting material  
from Smith wait corner down slope  
and shaping area.  
will have a platform for the concrete  
over the shaft. How buried material from  
the shaft area.

1:00

Corrie doing a good job - Hand shaped  
northwest side & filled most of  
low places along the street  
Power pole pulled back from concrete slab.  
Hansen appears to have temporary connection.



6/11/86

8:00

Had finished shaping area around the shaft at W. Canyon

8:30-10:30 - Shook the Buffalo shaft

Sutt and crew came about 10:30

went over the method of trenching - shovel him the cut & fill studies. Benenson

Big lumber - Two big for the post.

10:30 -

Checking gravel at the Buffalo shaft.

Still using Big lumber - Doing OK on the gravel compacted well.

4:00

All through at the Buffalo. Did not connect shaft a pile of dirt to be hauled away.

6/9/86 Cont'd

2:00

2 1/2

Phil Sutt at Colorado started out the trench etc. Shovel dirt where he would have to do more clean-up.

Sutt cleared & trimmed the area around the Colo shaft.

6/10/86

1/2

8:00 Two more writing, at either Place

9:00 Sutt and Bill cleaning area around the Colo shaft by hand.

9:15-12:00 Surveyed W. Canyon area.

12:15 Sutt & Bill placing lumber for bone for slabs. I drilled in the

gravel & set grade stake. Compacting with a skid type compactor with water being added for greater compaction.

Compaction doing well.

1:45

Checked gravel - OK.

Compaction Very good - gravel to grade.



June 13  
no work

June 14  
no work

June 15  
no work

June 16/86  
10:00

Placing concrete cover on  
Colo shaft finished c/c at  
11:00 looks good

Placed 2 panels on Buffalo  
Had to go back to mixer for  
more, went to here until tonight

~~Placed~~ 1

2:30

Pennington while covered the  
shaft. Burying rocks & debris.

June 12,

8:00 Darrin & I set grader for  
gravel at the W. Canyon.

Scott & crew showed up at 8:30  
Using Big Conlar started ~~burying~~  
burying platform top to grade.

10:00 working on burying platform  
to grade.

Told Scott to cover shaft  
area at the Buffalo in case  
of a failure. He said that he  
would.

Darrin, spent 6 hours on the  
job to complete the gravel base.

Scott left in P.M. to go to  
Billings. Dail not cover Buffalo  
Shaft.



6/19/86

1/4 8:30

Scott & Bill raking soil against  
Sidelwack on Mancus Street - Colorado

1/4 1:30

Scott & Bill at W. Cogan - Rerking  
after much delay away to the south  
side of the shaft cover.

1/4 2:00 Brains called

6/20/86

1/4 8:00

met ~~Scott~~ at the West Cogan  
Told him of Brains' talk.

Still want 17 ft. for lime - Told  
him Brains said 15 ft.

Will see him this afternoon after I  
talk with Brains. Brains Pliny Cole.

~~Told~~ Took Scott to the Cogan  
~~met Brains & then to Colo. to meet~~  
With Brains.

6/17/86

7:30 - 2:30 with Bob Brains

6/18/86 1/4 hr for lunch

7:30 - 9:00 - Placed 3 more panels at the  
Buffles shaft. Very slow (with power line and  
cell). 9:00 - 12:00 - panel (L) at xho

W. Cogan. 12:00 - 12:30 lunch.

12:30 - 1:30 at the Buffles. Scott &

Bill filling around the edge of  
concrete pad.

3:30 - 4:30 Removning two concrete  
pads placed at the W. Cogan -  
met Brains & Tom each.

6/18/86

Scott Scaired the Colorado  
dump. Put forms around beach in  
Sidelwack. Did not do a good  
job of compacting. Put form around  
concrete at top of Donie Duly shaft

Trips to see Scott 8:00 x

12:00 1/2

5:00 3/4



6/24/86 8:00 - 10:45

Grayrock Chaled (w/ing Scott's Rock)  
Heaven & started hauling lime-rock.  
Mt. Power plaving a new gravel  
field along Washington street ~~nearby~~ the  
West Canyon

To Colo with Scott. Scott using  
A.C. Loader & picking Rocks & rubble  
from the area.

1:00 - 3:40

Surveyed high sulphur ore with  
Doran. Scott still picking Rocks &  
Rubble.

6/25/86

8:00 - met Scott at the W. Canyon —  
Took him to Canyon to show him the  
rocky-salt material.  
Told him that 19,000 lbs yrk removed  
from W. Canyon.

He wanted a letter from me to stop  
work on the Drainage ditch across the  
Scott's east portion of the W. Canyon

6/20/86

24. 1:00 met Bravis at the cols —  
Bernie nearly thru plaving. Scott  
left for Billings about 11:00 — Did  
not say he was leaving. He had  
told me that he was leaving in the  
evening.

Bravis returned the Colo —

Bravis "lucked in" the scrub pine  
on Washington St.

6/23/86

Scott arrived in Butte about 3:00

Bravis arrived by plane @ 3:45

Bravis & I to W. Canyon — met  
with Preville, and representative from  
Crownrock.

Scott told that Gray Rock would  
have a spread the same rock at  
a depth of about 2 inches.



6/26/86 cont'd

do anything until after the meeting - will  
call car.

~~Stonewall~~ 30-

6/25/86 cont'd

Wrote letter to Delella & Thompson -  
ditch - Scott would not sign for  
an acceptance - wanted a letter  
telling to sign work.

Gave letter <sup>to Scott</sup> in deletion along with  
Brauer's change order with Davis  
as a witness. Scott said that  
he didn't know if he was to start  
ditch or not.

Scott said he wanted to be  
stopped - so that he could go  
back to Billings.

Scott left.

Brauer called - offered holding up -  
told Scott to do only 7 times of material work.

6/26/86

8:30 called Scott in Billings - Told  
him that 184 acrey sulphide material in  
the hole that needs the extra line. Also  
3.59 total acre in the area.

Scott said he is meeting in Milk City 4/26/86  
with offered to draw the report isn't



7/14/86 cont'd

Measured Truck box

15' 2" X 7' X 3' 3" (to top of wheel base)

= 12.78 cubic yards

Steel box said to be 10 cu yards

Water full

Loader Striping - 2 Trunk loader

Decided to use 10 cu yards per truck

10 X 22 = 220 sq ft

@ 15" deep  $220 \div 15" (1.25) = 216$  sq ft

$\sqrt{216} = 14.7$  ft

Spore Trunk dumpers 14 1/2 Center

7/15/86

10:00

8:00 Down on to road

Hauling to Colorado site finished

filling over area - total 12 Trunk loader

finished about 9:30

Started to fill around Colorado shaft & Down Ditch

Finished at 1:00

Grader finished grading

100.4

15' 2" X 7' 3" 3"

12.8 CY

7/14/86

Colorado

9:00 - AC loader - 2 trucks

loading out hot spot

Pamela called me at 8:45 said

he had been working since 8:00

(I don't know why he didn't call)

loader operator can't seem to dig

out one foot of material - cut it up

horribly. hurry.

Frank Corvina explaining that

his property is not fixed or get

hooked it over with him. Told

Switt that he would have to bring

down a load or 4000 & put on his

property & fill up the water entry

area.

15 load out finished excavating sun over

12:45 - Started loading at Pylon

2 Trucks & H.C. loader

1:05 - 5 Trunk loader hauled

3:00 - 8 loader hauled



7/10

7/10

7/16/86 Critch PM

5 Tractor  
1 loader  
1 Grader

Shaped ditch with grader - along Washington St.  
Not too good a job. Bobby not too good  
with a grader. Ditch will need shaping  
by hand.

7/17/86

8:00 - all equipment working

5 Tractor  
1 loader  
1 Grader

Took grader to Regan to window  
around to the soil pit on the South West corner  
Soil to fully grout sand on the paint floor  
Tabled to Garbary, Saker & Ganga Hates  
about moving to South West corner - OK.

Tabled with Bill McMahon - Mon hole at  
head of alley. Taker water. Mon hole at foot  
alley was hit by South's close - 1000 High pressure  
water

11:00 - 5 1/2 truck started @ 12:00

5 Tractor around concrete's plant  
finished ch. over @ 3:00

Grader to Buffalo - had haul  
over - finish grading.

Grader to W. Canyon @ 3:30

Started loader @ W. Canyon 3:30

Quert @ 4:30

1 truck 4 1/2 hr

4 Tractor 8 hr

12 E Grader 8 hr

245 A.C. loader 8 hr

To loader

7/16/86

Darrin on job

8:00 started - W. Canyon hauling soil

8-9 Tractor  
9-10 Tractor  
10-11 Tractor  
11-12 Tractor

5 Tractor working

1 Grader  
1 loader

11:30 - met with Nancy foot - all OK

12:00 - crew too lunch

Here used one tumbler & filled along Washington  
Street for the drainage ditch



7:45-8:00 Filled with Holes - we to break down the Ryan Pit

2 laborers working

1 loader working - finish grading outside upper area.

Billy as laborer started 8:45 - spent

45 minutes getting last bag to hand Dora to the Ryan.

Billy - laborer - 4 hours.

2 laborers - 10 hours each 20

Dora breaking down Dumps - 4 ~~hrs~~ 1 hr

Grader - 2 1/2 hours

Loader on rock & soil - 2 hours

Bob as laborer 4 1/2 hours

Truck 1 hr.

2:30  
4:3

2

7/21/86 AM could

1 Truck on soil - one man on both loaders & Truck  
man on loader & soil  
start Truck & loader @ 8:00  
1/2 hour per load.

Bob on Truck & loader  
8 loads by noon - 4 hours (2 each per hour)  
8 X 7 = 56 minutes on loader  
three 3 hour Truck & 1 hour loader

P.M. Scott not here.

1:00 hired two laborers.

Grader on East area &

Billy on hand work. started @ 12:30

2:00 - 3:30 Loader on rock (picking up rock)  
Billy & one laborer.

Truck & loader to Ryan to get one more load  
like 1/2 hour Truck & 1/2 hour loader.

Loader 7 1/2 hours - clean 1/2 hour to  
load soil.

AM 8-8-3 1/2 hr P.M. Grader 3 1/2 hr 3 1/2

Truck 3 hr. Truck 1/2 hr 3 1/2

Grader 1 hr Loader 2 hr 3

1 laborer - 4 hr  
2 laborers - 3 1/2 hr = 7 1/2



PHOTO LOG





Buffalo - Temporary Shaft Cover (3/86)



Buffalo - Installation of Shaft Cover (Summer 1986)





Buffalo - Installation of Shaft Cover (Summer 1986)



Buffalo - Installation of Shaft Cover (Summer 1986)





Buffalo - Project Completed (August 1986)









West Gagnon - Preconstruction (10/85)



West Gagnon - Preconstruction (10/85)





West Gagnon - Preconstruction (7/85)



West Gagnon - Preconstruction (7/85)





West Gagnon - Preconstruction (7/85)



West Gagnon - Waste Rock Dump Removal  
(Summer 1986)





West Gagnon - Waste Rock Dump Removal  
(Summer 1986)



West Gagnon - Removal of Foundations  
at Shaft (Summer 1986)





West Gagnon - Removal of Foundations  
at Shaft (Summer 1986)



West Gagnon - Waste Rock Dump Removal  
Completed (Summer 1986)





West Gagnon - Topsoiling (Summer 1986)



West Gagnon - Topsoiling Completed - Ready for  
Shaft Cap (Summer 1986)





West Gagnon - Installation of Shaft Cap  
(Summer 1986)



West Gagnon - Installation of Shaft Cap  
(Summer 1986)





West Gagnon - Installation of Shaft Cap  
(Summer 1986)



West Gagnon - Project Completed (11/87)





West Gagnon - Project Completed (11/87)



West Gagnon - Project Completed (11/87)





West Gagnon - Project Completed (11/87)









Colorado - Preconstruction (Summer 1985)



Colorado - Preconstruction (Summer 1985)





Colorado - Preconstruction (Summer 1985)



Colorado - Preconstruction (Summer 1985)





Colorado - Waste Rock Dump Removal  
(Spring 1986)



Colorado - Waste Rock Dump Removal  
(Spring 1986)





Colorado - Waste Rock Dump Removal  
(Spring 1986)



Colorado - Building Debris in Waste Rock Dump  
(Spring 1986)





Colorado - Building Debris in Waste Rock Dump  
(Spring 1986)



Colorado - Building Debris in Waste Rock Dump  
(Spring 1986)





Colorado - Building Debris in Waste Rock Dump  
(Spring 1986)



Colorado - Tunnel Entrance to Shaft  
(Spring 1986)





Colorado - Tunnel Entrance to Shaft  
(Spring 1986)



Colorado - Tunnel Entrance to Shaft  
(Spring 1986)





Colorado - Tunnel Entrance to Shaft  
(Spring 1986)



Colorado - Underground Shaft Entrance (Spring 1986)





Colorado - Waste Rock Dump Removal Completed  
(Spring 1986)



Colorado - Removal of Timber Retaining Wall  
(Summer 1986)





Colorado - Removal of Timber Retaining Wall  
(Summer 1986)



Colorado - Installation of Shaft Cap  
(June 1986)





Colorado - Installation of Shaft Cap  
(June 1986)



Colorado - Project Completed Plus one Year  
(November 1987)





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